SC-D391
SC-D392

Digital Video Camcorder
user manual

imagine the possibilities

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To receive more complete service, please register your product at

www.samsung.com/global/register

SAMSUNG

key features of your miniDV camcorder

FEATURES OF YOUR NEW MINIDV CAMCORDER

Digital Data Transfer Function with IEEE1394

By incorporating the IEEE 1394 (i.LINK™: i.LINK is a serial data transfer protocol and interconnectivity system, used to transmit DV data) high speed data transport port, both moving and photo images can be transferred to a PC, making it possible to produce or edit various images.

Photo Recording on a Tape

You can record a photo image on a tape.

680K pixel CCD

Your camcorder incorporates a 680K pixel CCD. Photo images can be recorded to a memory card.

Color TFT LCD

A high-resolution color TFT LCD gives you clean, sharp images as well as the ability to review your recordings immediately.

1200x Digital Zoom

Allows you to magnify an image up to 1200 times its original size.

Audio Enhancement

Provides more powerful sound with the Real Stereo and Audio Effect features.

Digital Image Stabilizer (DIS)

The DIS compensates for any hand shaking, reducing unstable images particularly at high magnification.

Various Visual Effects

The Visual Effects allow you to give your films a special look by adding various special effects.

Back Light Compensation (BLC)

The BLC function compensates for a bright background behind a subject you're recording.

Program AE

The Program AE enables you to alter the shutter speed and aperture to suit the type of scene/action to be filmed.

High Power Zoom Lens

Power Zoom lens allows users to magnify the subject clearly up to 34x.

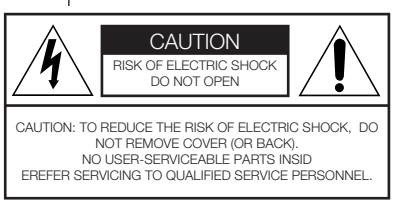
safety warnings

What the icons and signs in this user manual mean :

WARNING	Means that death or serious personal injury is a risk.
CAUTION	Means that there is a potential risk for personal injury or material damage.
CAUTION	To reduce the risk of fire, explosion, electric shock, or personal injury when using your miniDV camcorder, follow these basic safety precautions:
	Means hints or referential pages that may be helpful when operating the miniDV camcorder.

These warning signs are here to prevent injury to you and others.
Please follow them explicitly. After reading this section, keep it in a safe place for future reference.

important safety instructions


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSID
EREFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

Warning
To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Apparatus To Rain Or Moisture."

Caution
Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus. To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable.

important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachment/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

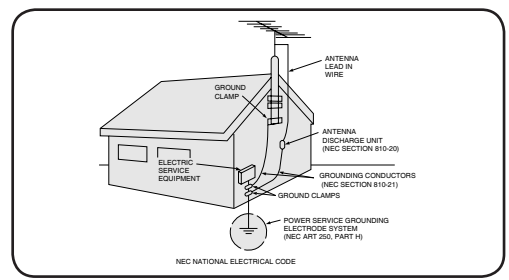
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
16. VENTILATION:
    Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the CAMCORDER and to protect it from overheating. These openings must not be blocked or covered. Never place your CAMCORDER on a bed, sofa, rug, or other similar surface: on or near a radiator or heat register. This CAMCORDER should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

17. POWER SOURCES:
The CAMCORDER should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply at your home, consult your appliance dealer or local power company. A CAMCORDER is intended to be operated from battery power, or other sources, refer to the operating instructions.

18. GROUNDING OR POLARIZATION:
This CAMCORDER may be equipped with either a polarized 2-wire AC line plug (a plug having one blade wider than the other) or a 3-wire grounding type plug, a plug having a third (grounding) pin. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your outlet. Do not defeat the safety purpose of the polarized plug.

19. POWER-CORD PROTECTION:
Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords or plugs, convenient receptacles, and the point where they exit from the unit.

20. OUTDOOR ANTENNA GROUNDING:
CAMCORDER, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges, Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire and supporting structure, grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding to conductors, location of antenna-discharge unit, connection to grounding electrodes and requirements for the grounding electrode.
See figure below.


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC NATIONAL ELECTRICAL CODE

21. LIGHTNING:
For added protection of this CAMCORDER during a lightning storm or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the CAMCORDER due to lightning and powerline surges.

important safety instructions

22. POWER LINES:
An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

23. OVERLOADING:
Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

24. OBJECTS AND LIQUIDS:
Never push objects of any kind into this CAMCORDER through openings as they may touch dangerous voltage points or short out a part that could result in a fire or electric shock. Never spill liquids of any kind onto the CAMCORDER. Should spillage occur, unplug unit and have it checked by a technician before use.

25. SERVICING:
Do not attempt to service this CAMCORDER yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

26. DAMAGE REQUIRING SERVICE:
Unplug this CAMCORDER from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a. When the power-supply cord or plug is damaged.
b. If any liquid has been spilled onto, or objects have fallen into the CAMCORDER.
c. If the CAMCORDER has been exposed to rain or water.
d. If the CAMCORDER does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the CAMCORDER to its normal operation.
e. If the CAMCORDER has been dropped or the cabinet has been damaged.
f. When the CAMCORDER exhibits a distinct change in performance, this indicates a need for service.

27. REPLACEMENT PARTS:
When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer and having the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

28. SAFETY CHECK:
Upon completion of any service or repairs to this CAMCORDER, ask the service technician to perform safety checks to determine that the CAMCORDER is in safe operating order.

29. To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or moisture.

30. If this power supply is used at 240V ac, a suitable plug adaptor should be used.

31. This product is covered by one or more of the following U.S. patents:
5,060,220 5,457,669 5,561,649 5,705,762 5,987,417 6,043,912 6,222,983 6,272,096 6,377,524 6,377,531 6,385,587 6,389,570 6,408,408 6,466,532 6,473,736 6,477,501 6,480,829 6,556,520 6,556,521 6,556,522 6,578,163 6,594,208 6,631,110 6,658,588 6,674,697 6,674,957 6,687,455 6,697,307 6,707,985 6,721,243 6,721,493 6,728,474 6,741,535 6,744,713 6,744,972 6,765,853 6,765,853 6,771,890 6,771,891 6,775,465 6,778,755 6,788,629 6,788,630 6,795,637 6,810,201 6,862,256 6,868,054 6,894,963 6,937,552

USER INSTALLER CAUTION:
Your authority to operate this FCC certified equipment could be voided if you make changes or modifications not expressly approved by this party responsible for compliance to part 15 FCC rules.

NOTE:
(Hg) LAMP(S) INSIDE THIS PRODUCT CONTAIN MERCURY AND MUST BE RECYCLED OR DISPOSED OF ACCORDING TO LOCAL, STATE OR FEDERAL LAWS. For details see lamprecycle.org, eiae.org, or call 1-800-Samsung (7267864)

CALIFORNIA USA ONLY
This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA
" Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate."

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help and for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems." This Booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

FCC Warning
The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.
This device complies with Part 15 of FCC Rules.
Operation is subject to the following two conditions;
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

precautions

Warning!

- This camcorder should always be connected to an AC outlet with a protective grounding connection.
- Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.

Caution

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

If this power supply is used at 240V ac, a suitable plug adaptor should be used.

notes and safety instructions

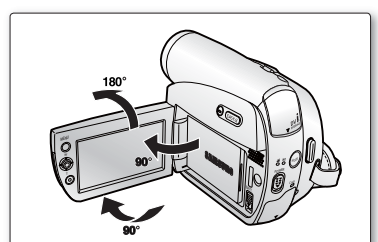
NOTES REGARDING THE VIDEO HEAD CLEANING

- To ensure normal recording and a clear picture, clean the video heads regularly.
  If a square block-shape distorts playback, or only a blue screen is displayed, the video heads may be dirty.
  If this happens, clean the video heads with a dry type cleaning cassette.
- Do not use a wet-type cleaning cassette. It may damage the video heads.

ADJUSTING THE LCD SCREEN

Please rotate the LCD screen carefully as illustrated. Over rotation may cause damage to the inside of the hinge that connects the LCD screen to the camcorder.

1. Open the LCD screen 90 degrees from the camcorder with your finger.
2. Rotate it to the best angle to record or play.
   - If you rotate the LCD screen 180 degrees so it is facing forward, you can close the LCD screen with the display facing out.
   - This is convenient during playback operations.



Refer to page 31 to adjust brightness and color of the LCD screen.

NOTES REGARDING THE LCD SCREEN

- Direct sunlight can damage the LCD screen and the inside of the the Lens. Take pictures of the sun only in low light conditions, such as at dusk.
- The LCD screen has been manufactured using high precision technology. However, there may be tiny dots (red, blue or green in color) that appear on the LCD screen. These dots are normal and do not affect the recorded picture in any way.
- Do not pick up the camcorder by holding the LCD screen or battery pack.

SERVICING & REPLACEMENT PARTS

- Do not attempt to service this camcorder yourself.
- Opening or removing covers may expose you to dangerous voltage or other hazards.
- Refer all servicing to qualified service personnel.
- When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer and having the same characteristics as the original part.
- Unauthorized substitutions may result in fire, electric shock or other hazards.

NOTES REGARDING CAMCORDER

- Do not leave the camcorder exposed to high temperatures (above 60 °C or 140 °F). For example, in a parked car in the sun or exposed to direct sunlight.
- Do not let the camcorder get wet. Keep the camcorder away from rain, sea water, and any other form of moisture. If the camcorder gets wet, it may get damaged. Sometimes a malfunction due to exposure to liquids cannot be repaired.
- A sudden rise in atmospheric temperature may cause condensation to form inside the camcorder.
  - When you move the camcorder from a cold location to a warm location (e.g. from outside to inside during the winter.)
  - When you move the camcorder from a cool location to a hot location (e.g. from inside to outside during the summer.)
- If the (DEW) protection feature is activated, leave the camcorder for at least two hours in a dry, warm room with the cassette compartment opened and the battery pack removed.

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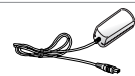
getting to know your miniDV camcorder

WHAT IS INCLUDED WITH YOUR MINIDV CAMCORDER

Your new Digital Video camcorder comes with the following accessories. If any of these items is missing from your box, call Samsung's Customer Care Center at 1-800-SAMSUNG.

✪ **The exact appearance of each item may vary by model.**

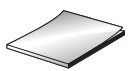
Battery Pack
(IA-BP80WA)
AD43-00186A



AC Power Adapter
(AA-E9 type)
AD44-00116B

Audio/Video Cable
AD39-00001A

User Manual CD
AD46-00230A



Quick Start Guide
AD68-02563A

Button-type Battery for Remote Control
(Type: CR2025)
(SC-D392 only)
AD43-10130H

Remote Control
(SC-D392 only)
AD59-00085A

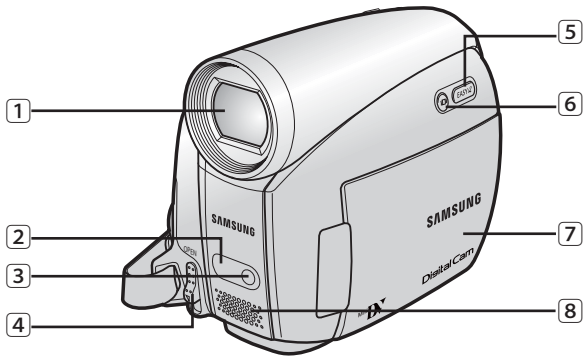
Lens Cover
AD97-10686A

Lens Cover Strap
AD72-00049A

Core filter
3301-001502

- The contents may vary depending on the sales region.
- Parts and accessories are available at your local Samsung dealer.

FRONT & LEFT VIEW

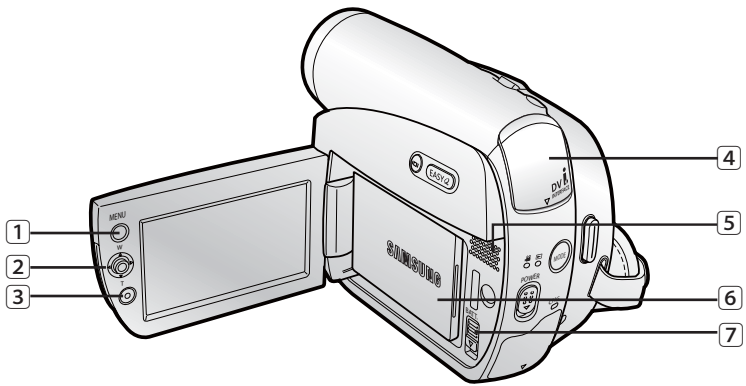


1	Lens
2	Remote sensor (SC-D392 only)
3	Light (SC-D392 only)
4	OPEN switch
5	EASY Q button ➥page 35
6	Display ( ) button
7	TFT LCD screen
8	Internal microphone

CAUTION Be careful not to cover the internal microphone and lens during recording.

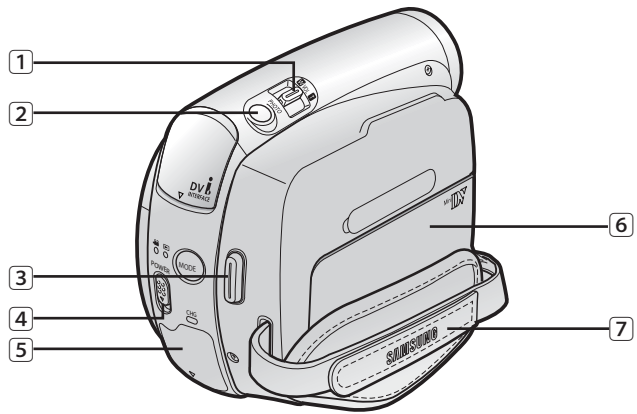
getting to know your miniDV camcorder

LEFT SIDE VIEW



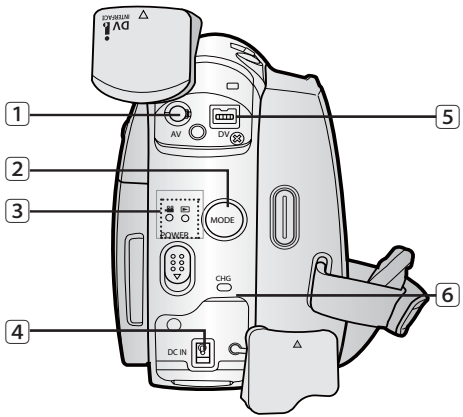
1 MENU button	5 Built-in speaker
2 Joystick (▲ / ▼/ ◀ / ▶/ Select), (W/T) ➥page 21	6 Battery pack
3 Recording start/stop button	7 Battery release (BATT.) switch
4 Jack cover (AV/DV jack)	

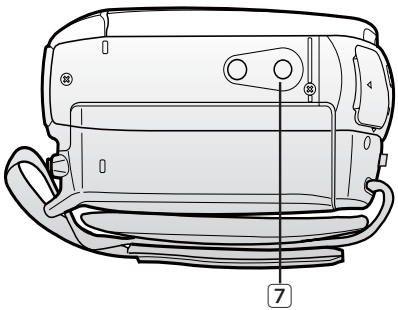
RIGHT & TOP VIEW



1 Zoom(W/T) / Volume (VOL) lever	5 Jack cover (DC IN jack)
2 PHOTO button ➥pages 59	6 Cassette compartment cover
3 Recording start/stop button	7 Hand strap
4 POWER switch	

REAR & BOTTOM VIEW



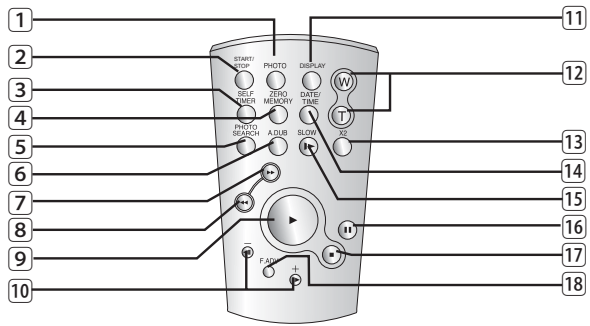


Jacks

SC-D391/D392	AV	DV	DC IN

1. AV jack
2. MODE button
3. Mode indicator (Camera ( ) / Player ( ) mode)
4. DC IN Jack
5. DV (IEEE1394) jack
6. Charging (CHG) indicator
7. Tripod receptacle

USING THE REMOTE CONTROL (SC-D392 only)



1 PHOTO button ➥pages 59	10 ◀II (-) / II▶ (+) (Direction) button ➥page 63
2 START/STOP button	11 Display button
3 SELF TIMER button ➥page 38	12 W/T (Zoom) button
4 ZERO MEMORY button ➥page 37	13 X2 button ➥page 63
5 PHOTO SEARCH button ➥page 60	14 DATE/TIME button
6 A.DUB button ➥page 64	15 I▶ (SLOW) button
7 ▶▶ (FF) button	16 II (PAUSE) button
8 ◀◀ (REW) button	17 ■ (STOP) button
9 ▶ (PLAY) button	18 F. ADV button ➥page 63

The buttons on the remote control function the same as those on the miniDV camcorder.

preparation

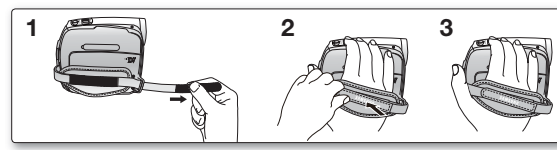
This section provides information on using this miniDV camcorder: such as how to use the provided accessories, how to charge the battery, how to set up the operation and screen indicators in each mode.

USING THE HAND STRAP & LENS COVER

It is very important to ensure that the hand strap has been correctly adjusted before you begin your recording.
The hand strap enables you to:

- Hold the camcorder in a stable, comfortable position.
- Put your hand in a position where you can easily operate the **Recording start/stop** button, **PHOTO** button, and the **Zoom** lever.

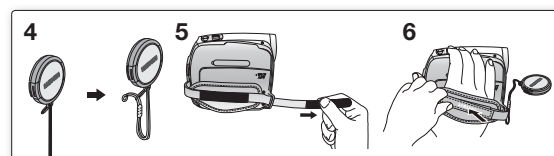
Hand Strap



Adjusting the Hand Strap

1. Insert the hand strap into the hand strap hook on the front side of the camcorder and pull its end through the hook.
2. Insert your hand into the hand strap and adjust its length for your convenience.
3. Close the hand strap.

Lens Cover

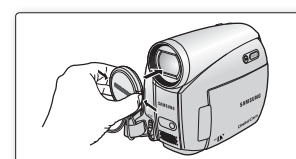


Attaching the Lens Cover

4. Hook up the lens cover with the lens cover strap as illustrated.
5. Hook up the lens cover strap to the hand strap, and adjust it following the steps as described for the hand strap.
6. Close the hand strap.

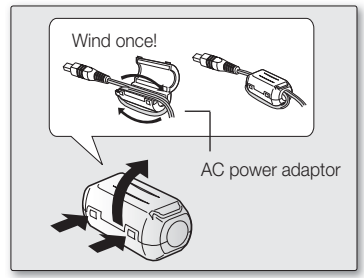
Installing the Lens Cover after Operation

Press buttons on both sides of the lens cover, then attach it to the camcorder lens.



ATTACHING THE CORE FILTER

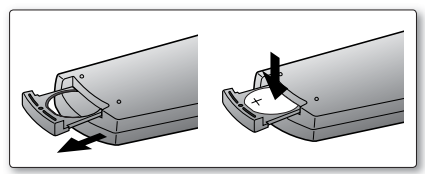
To reduce electrical interference, attach the core filter to the AC power adaptor.



- To attach the core filter to power adapter, roll the cable over core filter once.
- Be careful not to damage the cable when attaching the core filter.

INSTALLING THE BUTTON-TYPE BATTERY

Button-type battery installation for the remote control (SC-D392 only)



1. Pull out the button-type battery holder toward the direction of the arrow.
2. Position the button-type battery in the button-type battery holder, with the positive (⊕) terminal face up.
3. Reinsert the button-type battery holder.

Precaution regarding the button-type battery

- There is a danger of explosion if button-type battery is incorrectly replaced. Replace only with the same or equivalent type.
- Do not pick up the battery using tweezers or other metal tools. This will cause a short circuit.
- Do not recharge, disassemble, heat or immerse the battery in water to avoid the risk of explosion.

WARNING **Keep the button-type Battery out of reach of children. Should a battery be swallowed, seek medical attention immediately.**

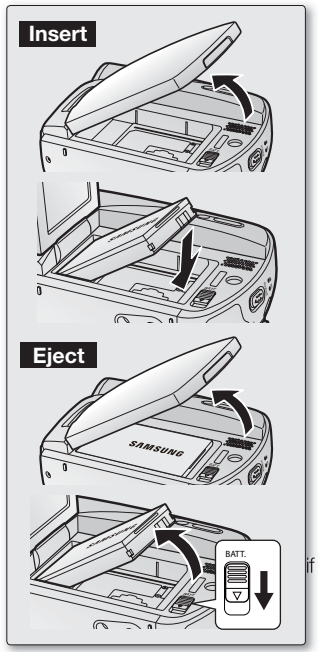
USING THE BATTERY PACK

- Use the IA-BP80WA battery pack only.
- The battery pack may be charged a little at the time of purchase.
- Be sure to charge the battery pack before you start using your miniDV camcorder.

Inserting / Ejecting the battery pack

1. Open the LCD screen as shown in the figure.
2. Insert the battery pack into the battery pack slot until it softly clicks.
   - Make sure that word mark (SAMSUNG) is facing out while the camcorder is placed as shown in the figure.
3. Slide the **BATT.** release switch and pull out the battery pack.
   - Gently slide the **BATT.** release switch in the direction as shown in the figure.

- Additional battery packs are available at your local Samsung dealer.
- If the miniDV camcorder will not be in use for a while, remove the battery pack from the miniDV camcorder.



Charging the Battery Pack

1. Slide the **POWER** switch downwards to turn off the power.
2. Insert the battery pack to the camcorder.
3. Open the jack cover and connect the AC power adaptor to the DC IN jack.
4. Connect the AC power adaptor to a wall socket.
5. Once charged, disconnect the AC power adaptor from the DC IN jack on your camcorder.
   - Even with the power switched off, the battery pack will still discharge if it is left inserted in the camcorder.

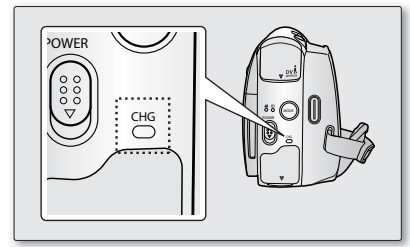
It is recommended that you purchase one or more additional battery packs to allow continuous use of your miniDV camcorder.

Use only Samsung-approved battery packs. Do not use batteries from other manufacturers.
Otherwise, there is a danger of overheating, fire or explosion.
Samsung is not responsible for problems occured due to using unapproved batteries.

Charging indicator

The color of the LED indicates the power or charging state.

- If the battery pack has been fully charged, the charge indicator is green.
- If you are charging the battery, the color of the charge indicator is orange.
- If an error occurs while the battery pack in charging, the charging indicator blinks orange.



<Charging indicator>

Charging, Recording Times with a fully charged battery pack (with no zoom operation, LCD open, etc.)

- Measured times shown in the table are based on model SC-D392.
  (Times for SC-D391/D392 are almost the same.)
- The time is only for reference. Figures shown in the table are measured under Samsung's test environment, and may differ from your actual use.
- The recording time shortens dramatically in a cold environment. The continuous recording times in the operating instructions are measured using a fully charged battery pack at 25 °C (77 °F). As the environmental temperature and conditions vary, the remaining battery time may differ from the approximate continuous recording times given in the instructions.

Battery \ Time	Charging time	Recording time
IA-BP80WA	Approx. 1hr 20min	Approx. 1hr 20min

The amount of continuous recording time available depends on:

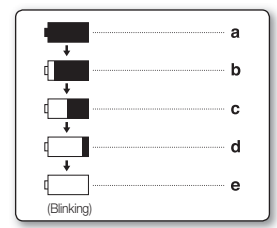
- The type and capacity of the battery pack you are using.
- Ambient temperature.
- How often the zoom function is used.
- Type of use (camcorder/camera/with LCD screen etc.)
- It is recommended that you have several batteries available.

- To check the remaining battery charge, press and hold the **Display** button. ➥page 20
- The charging time will vary depending on the remaining battery level.

Battery Level Display

The battery level display indicates the amount of power remaining in the battery pack.

a. Fully charged
b. 20~40% used
c. 40~80% used
d. 80~95% used
e. Completely used (Blinking)
(The Camcorder will turn off soon, change the battery as soon as possible.)



Battery Pack Management

- The battery pack should be recharged in an environment between 0 °C (32 °F) and 40°C (104 °F).
- The life and capacity of the battery pack will be reduced if it is used in temperatures below 0 °C (32 °F) or left in temperatures above 40 °C (104 °F) for a long period of time, even when it is fully recharged.
- Do not put the battery pack near any heat source (i.e. fire or a heater).
- Do not disassemble, apply pressure to, or heat the battery pack.
- Do not allow the + and – terminals of the battery pack to be short-circuited. It may cause leakage, heat generation, induce overheating or fire.

Notes regarding the Battery Pack

- Please refer to the table on page 15 for approximate continuous recording time.
- The recording time is affected by temperature and environmental conditions.
- The recording time shortens dramatically in a cold environment, as the environmental temperature and conditions vary.
- The continuous recording times in the operating instructions are measured using a fully charged battery pack at 25 °C (77 °F). The remaining battery time may differ from the approximate continuous recording times given in the instructions.
- **When purchasing a new battery pack, we recommend buying the same battery pack that is provided with this camcorder. The battery pack is available at SAMSUNG retailers.**
- When the battery reaches the end of its life, please contact your local dealer.
  Batteries should be handled as chemical waste.
- Make sure that the battery pack is fully charged before starting to record.
- A brand new battery pack is not charged. Before using the battery pack, you need to charge it completely.
- The battery pack may be prone to leakage when fully discharged.
  Fully discharging a battery pack damages the internal cells.
- To preserve battery power, keep your camcorder turned off when you are not operating it.
- If your camcorder is in **Camera** mode, and it is left in **STBY** mode without being operated for more than 5 minutes with a tape inserted, it will automatically turn itself off to protect against unnecessary battery discharge.
- Do not drop the Battery Pack. Dropping the battery pack may damage it.

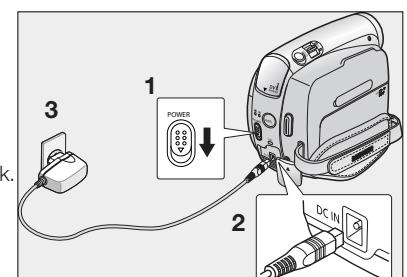
CONNECTING A POWER SOURCE

- There are two types of power source that can be connected to your camcorder.
  - The AC Power Adapter: used for indoor recording.
  - The Battery Pack: used for outdoor recording.

Using a Household Power Source

Connect to a household power source to use the camcorder without having to worry about the battery power. You can keep the battery pack attached; the battery power will not be consumed.

1. Slide the **POWER** switch downwards to turn off the power.
2. Open the jack cover and connect the AC power adaptor to the DC IN jack.
3. Connect the AC power adaptor to a wall socket.
   - The plug and wall socket type may differ according to your resident country.
4. Slide the **POWER** switch downwards to turn on the power and press the **MODE** button to set **Camera** ( ) or **Player** ( ).

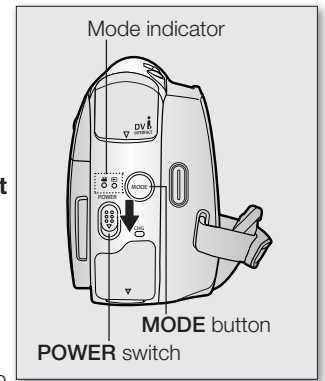


BASIC MINIDV CAMCORDER OPERATION

Turning the miniDV camcorder on and off

You can turn the camcorder on or off by sliding the **POWER** switch downward.

- Slide the **POWER** switch repeatedly to toggle the power on or off.



Setting the operating modes

- **Set the operation mode by adjusting the MODE button and Select switch before operating any functions.**
- Press the **MODE** button to set **Camera**( ) or **Player**( ).
  Each press of the **MODE** button toggles between the **Camera** ( ) mode
  and **Player** ( ) mode.

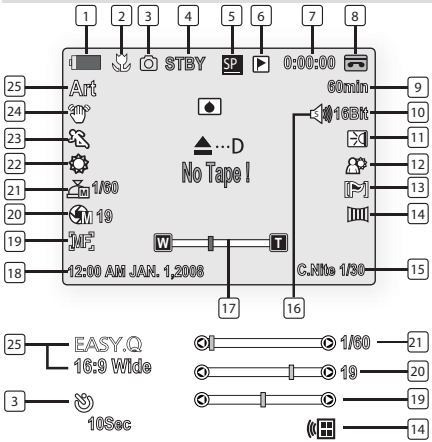
  - **Camera** mode ( ): To record movie or photo images on a tape. ➥page 19
  - **Player** mode ( ): To play movie or photo images on a tape. ➥page 19

- The operating modes are determined by the position of the **MODE** button and **Select** switch.

Mode Name	Camera Mode	Player Mode
MODE button		

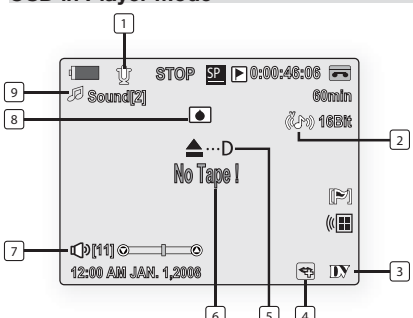
SCREEN INDICATORS IN CAMERA / PLAYER MODES

OSD in Camera Mode



1. Battery Level ➥page 16
2. Tele Macro * ➥page 53
3. Tape photo recording ➥page 59 / Self timer * ➥page 38 (SC-D392 only)
4. Operating Mode
5. Record Speed Mode ➥page 43
6. Zero Memory ➥page 37 (SC-D392 only)
7. Time counter (movie recording time)
8. Tape Indicator
9. Remaining Tape (measured in minutes)
10. Audio Mode ➥page 43
11. Light * ➥page 58 (SC-D392 only)
12. BLC (Back Light Compensation)* ➥page 55
13. WindCut Plus * ➥page 44
14. Fade ➥page 40/ Remote ➥page 24 (SC-D392 only)
15. C.Nite * ➥page 57
16. Real Stereo ➥page 45
17. Zoom Position * ➥page 36
18. Date/Time ➥page 31
19. Manual Focus * ➥page 41
20. Manual Exposure * ➥page 42
21. Shutter Speed * ➥page 42
22. White Balance * ➥page 48
23. Program AE * ➥page 46
24. DIS * ➥page 54
25. Visual Effects Mode * ➥page 50
    EASY.Q * ➥page 35
    16:9 Wide ➥page 52

OSD in Player Mode



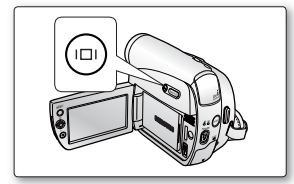
1. Audio Dubbing ➥page 64 (SC-D392 only)
2. Audio Effect ➥page 66
3. DV IN (DV date transfer mode) ➥page 72
4. VOICE+ Indicator ➥page 70
5. Warning Indicator ➥page 77
6. Message Line ➥page 77
7. Volume Control * ➥page 61
8. DEW ➥page 78
9. Dubbed Audio Playback ➥page 65

- OSD indicators shown here are ased on model SC-D392.
- The above screen is an example; it is different from the actual display.
- For enhanced performance, the display indications and the order are subject to change without prior notice.
- Functions marked with * will not be retained when the miniDV camcorder is powered on after turning it off.

USING THE DISPLAY ( ) BUTTON

You can switch between the on-screen information display modes: Press the **Display** ( ) button.

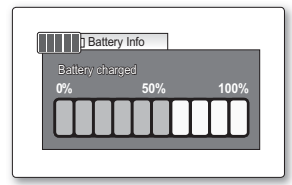
Switching the information display mode



You can switch between the on-screen information display modes:
Press the **Display** ( ) button.
The full and minimum display modes will alternate.

- Full display mode: All information will appear.
- Minimum display mode: Only operating status indicators will appear.

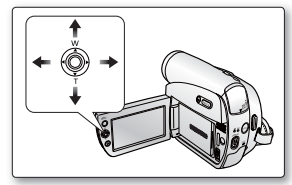
Checking the remaining battery



- Press and hold the **Display** ( ) button while charging with the power off. After a while, the charging status will be displayed on the LCD screen for 7 seconds.
- The battery charge status is given as reference and is an estimation. It may differ depending on the battery capacity and temperature.

USING THE JOYSTICK

Used for playback, pausing, fast forwarding, and rewinding. Also used as directional buttons (up, down, left, right) and to make a selection when selecting movie, photo images or menus.



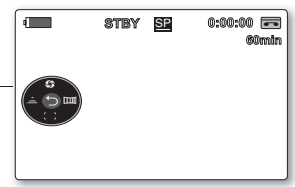
1. Move the **Joystick (▲ / ▼)** up or down.
2. Move the **Joystick (◀ / ▶)** left or right.
   - Confirm your selection by pressing **Joystick.**

For more information on the OSD menus displayed using the **Joystick** (▲/ ▼/◀ / ▶), see page 22.

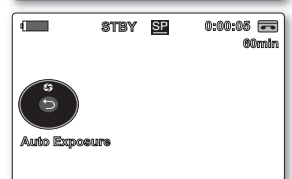
HANDLING QUICK MENUS WITH THE JOYSTICK

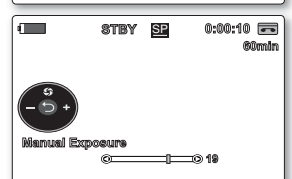
Using the **Joystick**, you can easily access frequently used menus without using the **MENU** button.

✪ Follow the instructions below to use each of the menu items listed after this page. For example: setting the Exposure in **Camera** ( ) mode



1. Press the **Joystick**.
   - Quick menu is displayed.
2. Press the **Joystick (▲/ ▼/◀ / ▶)** to control the setting.
   - Moving the Joystick up toggles between **"Auto Exposure"** and **"Manual Exposure"**.
3. Press the **Joystick** to confirm your selection.
   - Press the **Joystick** button to exit the quick menu according to the selected mode.





- There are some functions you cannot activate simultaneously when using **Joystick**. You cannot select the menu items grayed out on the screen.
- Accessible items in menu and quick menu vary depending on the operation mode.

HANDLING QUICK MENUS WITH THE JOYSTICK

Quick Menu In Camera /Player modes

Joystick	Camera ( ) Mode		Player ( ) Mode				
Status / Input		-	STOP	PLAY	PAUSE	FF	REW
▲		Exposure	-	-	-	-	-
▼		Focus	-	STOP	STOP	STOP	STOP
◀		Shutter	REW	REW	REW	REW	REW
▶		Fade	FF	FF	FF	FF	FF
OK		Return / Selection / Exit the menu	PLAY	PAUSE	PLAY	PLAY	PLAY

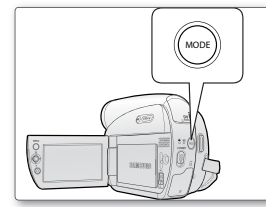
initial setting : system menu setting

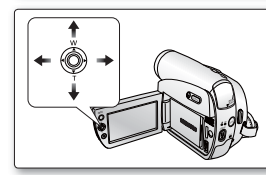
SETTING THE CLOCK (CLOCK SET)

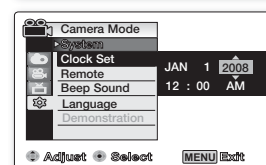
- Clock setup works in **Camera** / **Player** modes. ➥page 18
- Set the date and time when using this camcorder for the first time.

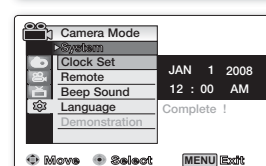
1. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"System"**, then press the **Joystick** or move the **Joystick (▶)**to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Clock Set"**, then press the **Joystick**.
   - The year will be highlighted first.
5. Move the **Joystick (▲ / ▼)** up or down to set the current year, then press the **Joystick**.
   - The month will be highlighted.
6. You can set the month, day, hour and minute following the same procedure after setting the year.
7. Press the **Joystick** after setting the minutes.
   - The message **"Complete !"** is displayed.
8. To exit, press the **MENU** button.

- You can set the year up to 2037.
- **Turning the date and time display on/off**
  To switch the date and time display on or off, access the menu and change the date/time display mode. ➥page 31







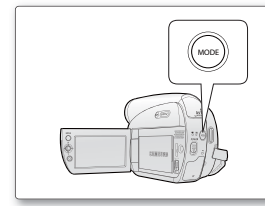


Display illustrations in this manual

- OSD illustrations of SC-D392 are used in this manual.
- Some of the OSD items shown in this manual may differ slightly from the actual items on your camcorder.

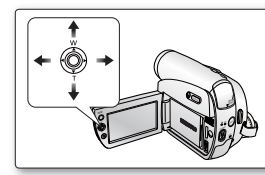
SETTING THE WIRELESS REMOTE CONTROL ACCEPTANCE (REMOTE) (SC-D392 only)

- The remote function works in **Camera** / **Player** modes. ➥page 18
- The remote function allows you to enable or disable the remote control for use with the camcorder.



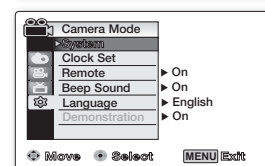
1. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).

2. Press the **MENU** button.
- The menu list will appear.



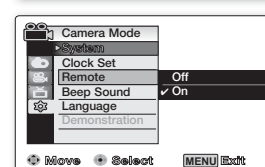
3. Move the **Joystick (▲ / ▼)** up or down to select **"System"**, then press the **Joystick** or move the **Joystick (▶)**to the right.

4. Move the **Joystick (▲ / ▼)** up or down to select **"Remote"**, then press the **Joystick**.



5. Move the **Joystick (▲ / ▼)** up or down to select **"On"** or **"Off"**, then press the **Joystick**.

6. To exit, press the **MENU** button.



If you set the **"Remote"** to **"Off"** in the menu and try to use it, the remote control indicator ( ) will blink for 3 seconds on the LCD screen and then disappear.

initial setting : system menu setting

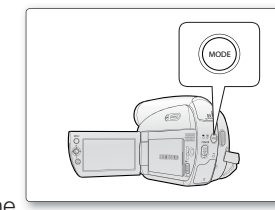
SETTING THE BEEP SOUND (BEEP SOUND)

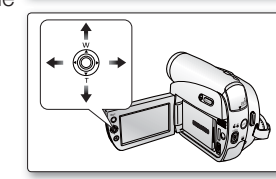
- The beep sound function works in **Camera** / **Player** modes.
  ➥page 18
- You can turn the beep sound on or off, when on, each press of a button sounds a beep.

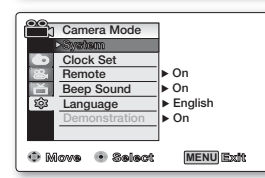
1. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).

2. Press the **MENU** button.
- The menu list will appear.

3. Move the **Joystick (▲ / ▼)** up or down to select **"System"**, then press the **Joystick** or move the **Joystick (▶)**to the right.

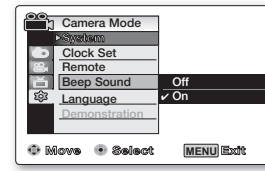






initial setting : system menu setting

SETTING THE BEEP SOUND (BEEP SOUND)



4. Move the **Joystick (▲ / ▼)** up or down to select **"Beep Sound"**, then press the **Joystick**.

5. Move the **Joystick (▲ / ▼)** up or down to select **"On"** or **"Off"**, then press the **Joystick**.

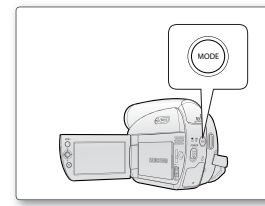
6. To exit, press the **MENU** button.

When beep sound is set to off, the power on/off sound is off.

initial setting : system menu setting

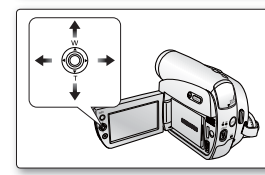
SELECTING THE OSD LANGUAGE (LANGUAGE)

- The Language function works in **Camera** / **Player** modes.
  ➥page 18
- You can select the desired language to display the menu screen and the messages.



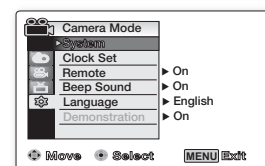
1. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).

2. Press the **MENU** button.
- The menu list will appear.

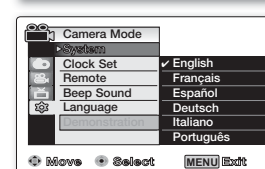


3. Move the **Joystick (▲ / ▼)** up or down to select **"System"**, then press the **Joystick** or move the **Joystick (▶)**to the right.

4. Move the **Joystick (▲ / ▼)** up or down to select **"Language"**, then press the **Joystick**.
- The available language options are listed.
- English / Français / Español / Deutsch / Italiano / Português / Polski / Nederlands / Magyar / Svenska / 中文 / ไทย / عربي / Iran / Русский / Українська / 한국어 / Suomi / Türkçe / Norwegian / Danish / Czech / Slovakia



5. Move the **Joystick (▲ / ▼)** up or down to select the desired OSD language, then press the **Joystick**.
- The OSD language is refreshed in the selected language.

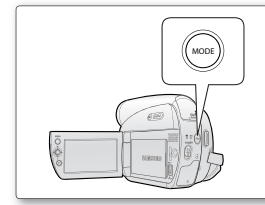


6. To exit, press the **MENU** button.

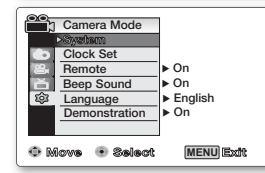
Language options may be changed without prior notice.

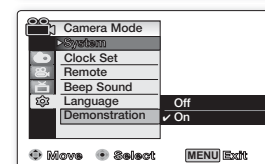
VIEWING THE DEMONSTRATION (DEMONSTRATION)

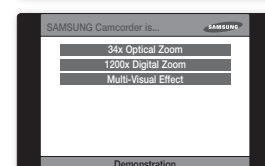
- Demonstration automatically shows you the major functions that are included with your camcorder so that you may use them more easily.
- The demonstration function may only be used in the **Camera** mode without a tape inserted in the camcorder. ➥page 18
- Before you begin: Make sure that there is no tape inserted in the camcorder. ➥page 33
- The demonstration operates repeatedly until the demonstration mode is switched off.



1. Press the **MODE** button to set **Camera** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"System"**, then press the **Joystick** or move the **Joystick (▶)**to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Demonstration"**, then press the **Joystick**.
5. Move the **Joystick (▲ / ▼)** up or down to select **"On"**, then press the **Joystick**.
6. Press the **MENU** button.
   - The demonstration will begin.
7. To quit the demonstration, press the **MENU** button.





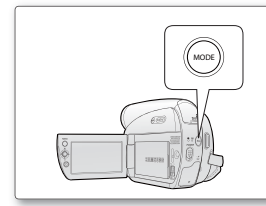


- The demonstration function is automatically activated when the camcorder is left idle for more than 10 minutes after switching to the **Camera** mode (if no tape is inserted in the camcorder).
- If you press other buttons **(MENU, Joystick, EASY.Q...)** during the demonstration mode, the demonstration stops temporarily and resumes 10 minutes later if you do not operate any other functions.
- The demonstration mode displays in 4:3 aspect ratio on the LCD screen.

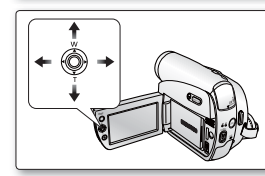
initial setting : display menu setting

SETTING THE GUIDELINE (GUIDELINE)

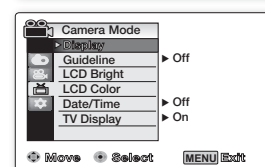
- Adjusting the LCD screen works in **Camera** modes. ➥page 18
- Guideline displays a certain pattern on the LCD screen so that you can easily set the image composition when recording movie or photo images.
- The miniDV camcorder provides 3 types of guidelines.

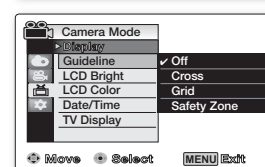


1. Press the **MODE** button to set **Camera** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Display"**, then press the **Joystick** or move the **Joystick (▶)**to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Guideline"**, then press the **Joystick**.
5. Move the **Joystick (▲ / ▼)** up or down to select the guideline display type, then press the **Joystick**.



Settings	Contents	On-screen display
Off	Disables the function.	None
Cross	Enables you to center the subject for proper recording.	
Grid	Enables you to place the subject in the center square fo r proper positioning.	
Safety Zone	Enables you to place the subject within a safety zone which prevents it being cut when editing in 4:3 mode for left and right and 2.35:1 for top and bottom.	



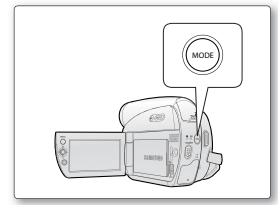


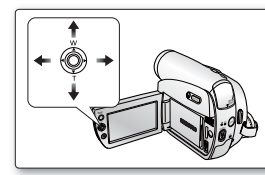
7. To exit, press the **MENU** button.

- Positioning the subject at the cross point of the guideline makes a balanced composition.
- Guidelines are not recorded on the images.

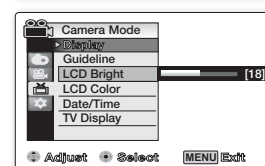
ADJUSTING THE LCD SCREEN (LCD BRIGHT/LCD COLOR)

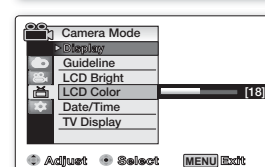
- Adjusting the LCD screen works in **Camera** / **Player** modes. ➥page 18
- Your camcorder is equipped with a 2.7 inch wide color Liquid Crystal Display (LCD) screen, which enables you to view what you are recording or playing back directly.
- Depending on the conditions under which you are using the camcorder (indoors or outdoors for example), you can adjust:
  - **"LCD Bright"**
  - **"LCD Color"**





1. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Display"**, then press the **Joystick** or move the **Joystick (▶)**to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"LCD Bright"** or **"LCD Color"**, then press the **Joystick**.
5. Move the **Joystick (▲ / ▼)** up or down to adjust the value of the selected item, **"LCD Bright"** or **"LCD Color"**, then press the **Joystick**.
   - You can set values for **"LCD Bright"** and **"LCD Color"** between **"0"** and **"35"**.
6. To exit, press the **MENU** button.
   - Adjusting the LCD screen does not affect the brightness and color of the image to be recorded.



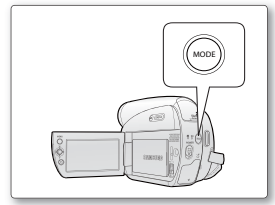


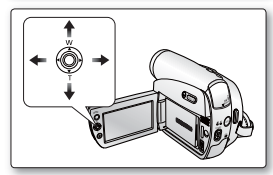
initial setting:display menu setting

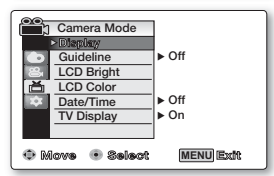
DISPLAYING THE DATE / TIME (DATE / TIME)

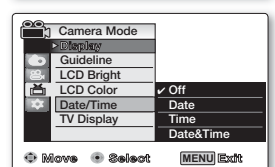
- The date/time function works in **Camera** / **Player** modes. ➥page 18
- The date and time are automatically recorded on a special data area of the tape.

1. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Display"**, then press the **Joystick** or move the **Joystick (▶)**to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Date/Time"**, then press the **Joystick**.
5. Move the **Joystick (▲ / ▼)** up or down to select the date/time display type, then press the **Joystick**.
   - Date/Time display types: **"Off"**, **"Date"**, **"Time"**, **"Date&Time"**.
6. To exit, press the **MENU** button.





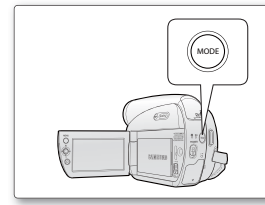


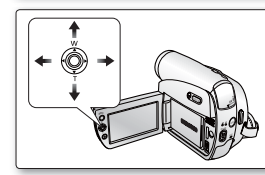


- **On charging the built-in rechargeable battery**
  Your camcorder has a built-in rechargeable battery to retain the date, time, and other settings even when the power is off. The built-in rechargeable battery is always charged while your camcorder is connected to the wall outlet via the AC power adaptor or while the battery pack is attached. The rechargeable battery will be fully discharged in about 3 months if you do not use your camcorder at all. Use your camcorder after charging the built-in rechargeable battery. If the built-in rechargeable battery is not charged, any data that you have input will not be backed up and the date/time appears on the screen as **"12:00 AM JAN. 1.2008"** (when **"Date/Time"** display is set to **"On"**).
- The date/time will read **"12:00 AM JAN. 1.2008"** in the following conditions:
  - When the built-in rechargeable battery becomes weak or dead.
  - If the movie or photo recording was made before setting the date/time in the miniDV camcorder.
- The DATE/TIME button exists on the remote control as well. (SC-D392 only)
  Press it once to display the date **"JAN. 1.2008"**, press it twice to display the time and press it again to display both time and date on the screen.

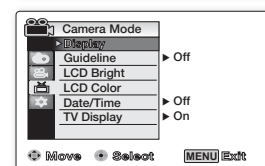
SETTING THE TV DISPLAY (TV DISPLAY)

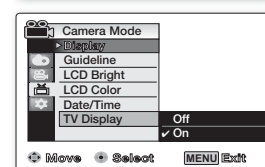
- The TV Display function works in **Camera** / **Player** modes.
  ➥page 18
- You can select the output path of the OSD (On Screen Display).
  - **"Off"**: The OSD appears on the LCD screen only.
  - **"On"**: The OSD appears on the LCD screen and TV.
    (Connecting to a TV ➥pages 69~70)
  - Use the **Display( )** button to turn the OSD on/off on the LCD screen and TV. ➥page 20





1. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Display"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"TV Display"**, then press the **Joystick**.
5. To activate TV Display function, move the **Joystick (▲ / ▼)** up or down to select **"On"** or **"Off"**, then press the **Joystick**.
6. To exit, press the **MENU** button.

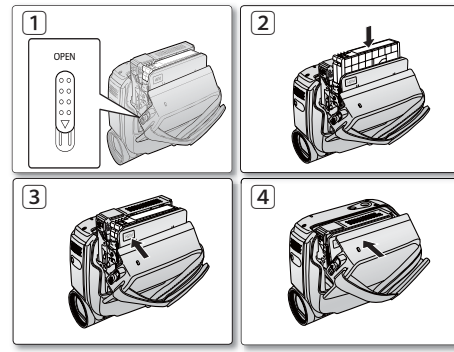




INSERTING / EJECTING A CASSETTE

- When inserting a tape or closing the cassette compartment, do not apply excessive force, as it may cause a malfunction.
- Do not use any tape other than DV cassettes.

1. Connect a power source and slide the **OPEN switch**.
   - The cassette compartment cover opens automatically.
2. **Inserting a Cassette:** Insert a tape into the cassette compartment with the tape window facing outward and the protection tab toward the top.
   Ejecting a Cassette: Remove the cassette tape, which is automatically ejected by pulling the cassette out.
3. Press the area marked **PUSH** on the cassette compartment cover until it clicks into place.
   - The cassette is loaded automatically.
4. Close the cassette compartment cover.

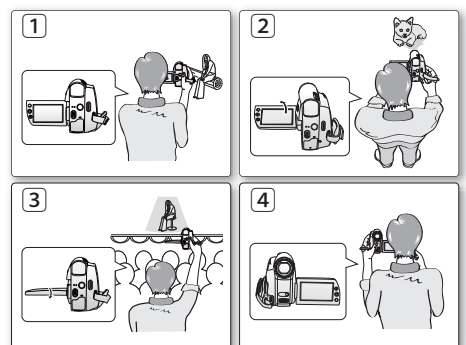


VARIOUS RECORDING TECHNIQUES

In some situations different recording techniques may be required.

1. General recording.
2. Downward recording.
   - Making a recording with a top view of the LCD screen.
3. Upward recording.
   - Making a recording viewing the LCD screen from below.
4. Self recording.
   - Making a recording viewing the LCD screen from the front.

Please rotate the LCD screen carefully as excessive rotation may cause damage to the inside of the hinge that connects the LCD screen to the camcorder.



MAKING YOUR FIRST RECORDING

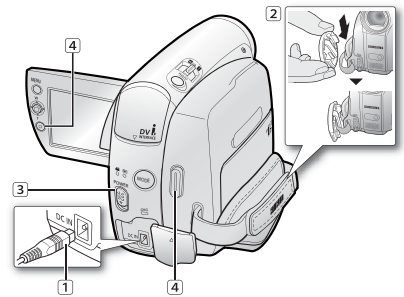
1. Connect a power source to the camcorder. ➥page 17
(A battery pack or a AC power adapter) ➥pages 14,17
- Insert a cassette. ➥page 33

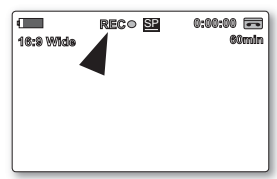
2. Remove the lens cover.

3. Slide the **POWER** switch downwards to turn on the power.
- Open the LCD screen.
- Press the **MODE** button to set **Camera** ( ).
  - Make sure that **STBY** is displayed.
- If the write protection tab of the cassette is open (set to save), **STOP** and **"Protection!"** will be displayed. Release the write protection tab to record.
- Make sure the image you want to record appears on the LCD screen.
- Make sure the battery level indicates that there is enough remaining power for your expected recording time.
- You can select a record mode of your choice. ➥page 43

4. To start recording, press the **Recording start/stop** button.
- **"REC●"** is displayed on the LCD screen.

To stop recording, press the **Recording start/stop** button again.
- **"STBY"** is displayed on the LCD screen.





- Eject the battery pack when you finish the recordings to prevent unnecessary battery power consumption.
- The miniDV camcorder provides two **Recording start/stop** buttons. One is on the rear side of the camcorder and the other one is on the LCD panel. Select the **Recording start/stop** button according to the use.

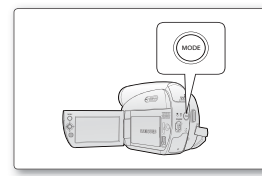
RECORDING WITH EASE FOR BEGINNERS (EASY Q MODE)

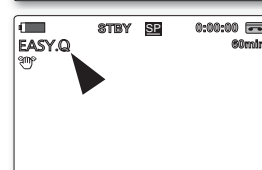
- The EASY Q function works only in **Camera** mode. ➥page 18
- With the EASY Q function, most of the miniDV camcorder settings are automatically adjusted, which frees you from making detailed adjustments.

1. Press the **MODE** button to set **Camera** ( ).

2. Press the **EASY Q** button.
- When you press the **EASY Q** button, most functions turn off and the following functions are set to **"Auto"** (DIS, Focus, White Balance, Exposure, Program AE, Shutter)
- The EASY Q and DIS( ) indicators appear on the screen at the same time.

3 Press the **Recording start/stop** button to start recording.
- Recording will begin using the basic automatic settings.





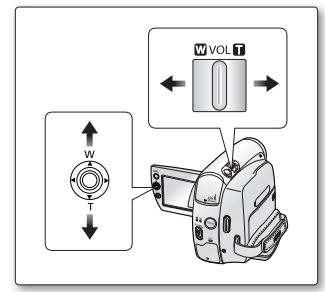
To cancel the EASY Q mode

Press the **EASY Q** button again.
- The EASY Q and DIS( ) indicators disappear from the screen.
- Almost all the settings will return to the settings that were set prior to activating EASY Q mode.
- You cannot cancel the EASY.Q mode during recording.

- **Menu button unavailable during EASY.Q operation**
  The **MENU** button is not available because the items are automatically set. The **"Release the Easy.Q!"** messages may appear if unavailable operations are attempted.
  - **MENU** button
- Taking a photo image using the **PHOTO** button while EASY.Q is set releases the DIS function.

ZOOMING IN AND OUT

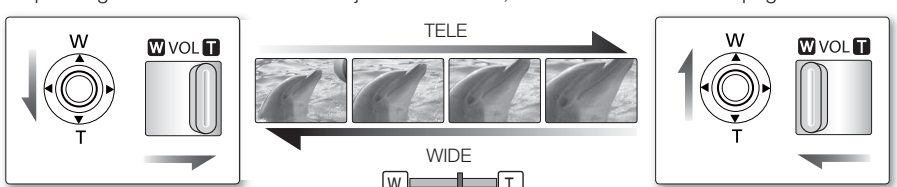
- The zoom function works in **Camera** modes. ➥page 18
- Use the zoom function for close-up or wide-angle recording.
- This miniDV camcorder allows you to record using optical 34x power zoom and 1200x digital zoom.



To zoom in
Slide the **Zoom** lever towards **T** (telephoto).
(Or move the **Joystick** down (**T**) on the LCD panel.)

To zoom out
Slide the **Zoom** lever towards **W** (wide-angle).
(Or move up the **Joystick** (**W**) on the LCD panel.)

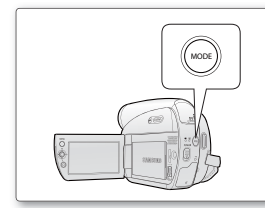
- The farther you slide the Zoom lever, the quicker the zoom action.
- Be sure to keep your finger on the Zoom lever. If you move your finger off the Zoom lever, the operation sound of the Zoom lever may be also recorded.
- Focusing may become unstable during zooming. In this case, set the zoom before recording and lock the focus by using the manual focus, then zoom in or out during recording. ➥page 41
- The minimum possible distance between camcorder and subject while maintaining sharp focus is about 1 cm (about 0.39 inch) for wide angle and 50 cm (about 19.68 inch) for telephoto.
- Optical zoom preserves the movie quality, but during digital zoom the quality of image may suffer.
- When you zoom into a subject close to the lens, the miniDV camcorder may automatically zoom out depending on the distance to the subject. In this case, set **"Macro"** to **"On."** ➥page 53



SEARCHING QUICKLY FOR A DESIRED SCENE (SETTING THE ZERO MEMORY) (SC-D392 only)

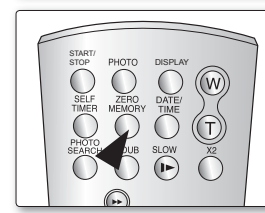
- The zero memory function works in both **Camera** and **Player** modes. ➥page 18
- You can mark a point on a tape that you want to return to following playback.

2. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).

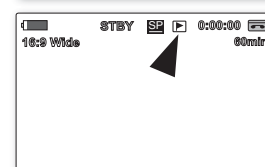


3. Press the **ZERO MEMORY** button on the remote control before recording or during playback at the point where you wish to return.
- The time code is changed to a tape counter that is set to zero memory with the zero memory (**0:00:00**) indicator displayed.
- If you want to cancel the zero memory function, press the **ZERO MEMORY** button again.

4. Finding the zero position.
- When you have finished playback, fast forward or rewind the tape in stop mode. The tape stops automatically when it reaches the zero position.
- When you have finished recording, press the **MODE** button to set **Player** ( ) and press the **◀◀ (REW)** button. The tape stops automatically when it reaches the zero position.



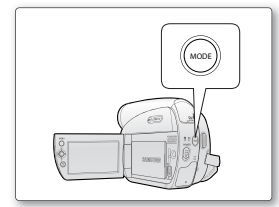
5. The tape counter with the zero memory ( ) indicator disappears from the display and the tape counter is changed to the time code.



- In the following situations, zero memory mode may be canceled automatically:
  - At the end of the section marked with the zero memory function.
  - When the tape is ejected.
  - When you remove the battery pack or power supply.
- The zero memory may not function correctly where there is a break between recordings on the tape.
- The zero memory function is available only when using the remote control.

SELF RECORD USING THE REMOTE CONTROL (SETTING THE SELF TIMER) (SC-D392 only)

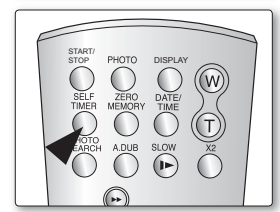
- The SELF TIMER function works only in **Camera** mode. ➥page 18
- When you use the SELF TIMER function on the remote control, the recording begins automatically in 10 seconds.



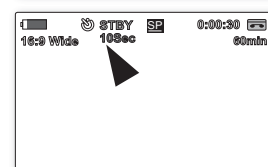
1. Press the **MODE** button to set **Camera** ( ).

2. Press the **SELF TIMER** button.
- The ( ) indicator is displayed.

3. To record movie images, press the **Recording start/stop** button.
- Self timer starts counting down from 10. At this moment, recording indicator blinks with a beep sound.
- At the last second of the countdown, recording starts automatically.
- If you want to cancel the self timer function before recording, press the **SELF TIMER** button again.



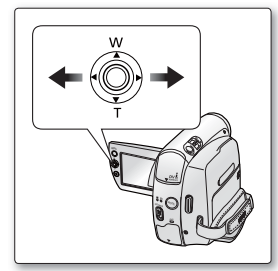
- Do not obstruct the remote control sensor by putting obstacles between the remote control and miniDV camcorder.
- The remote control maximum range is 4 to 5m (13 to17 ft).
- The effective remote control angle is up to 30 degrees left /right from the center line.
- Using a tripod (not supplied) is recommended during self record.



REVIEWING AND SEARCHING A RECORDING

- The Rec Search function works only in **Camera** mode. ➥page 18
- Used to review previously recorded images or to find a point to record a new image in the STBY mode.

Record Search (Joystick)



1. Press the **MODE** button to set **Camera** ( ).
2. To start recording, press the **Recording start/stop** button.
3. Set to STBY mode by pressing **Recording start/stop** button again.
4. **To perform the backward search:**
   - Move the **Joystick (◀)** to the left.
     - While you press and hold the **Joystick (◀)**, the selected images will be played in reverse order. Press and release the **Joystick (◀)** to play the images in reverse order for 3 seconds before resetting the play order to normal.

   To perform the normal search:
   - Move the **Joystick (▶)** to the right.
     - While you press and hold the **Joystick (▶)**, the selected images will be played in normal order. To resume recording when your record search is done, press the **Recording start/stop** button.

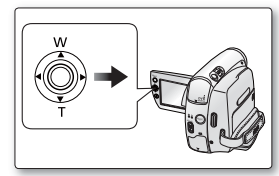
Mosaic shaped distortion may appear on the screen while in Record Search mode.

USING THE FADE ON AND OFF

- The Fade function works only in **Camera** mode. ➥page 18
- You can give your recording a professional look by using special effects such as fade in at the beginning of a sequence or fade out at the end of a sequence.

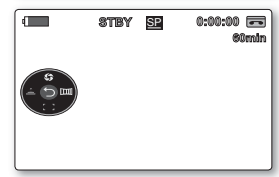
To Start Recording

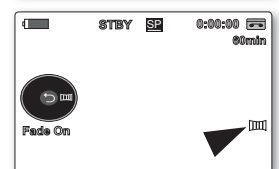
1. Press the **MODE** button to set **Camera** ( ).
2. Before recording, press the **Joystick** and then move the **Joystick (▶)** to the right.
   - Move the **Joystick (▶)** to the right fade function to select **"Fade On"**.
3. Press the **Recording start/stop** button and at the same time release the Fade function.
   - Recording starts and the picture and sound gradually appear. (Fade In)

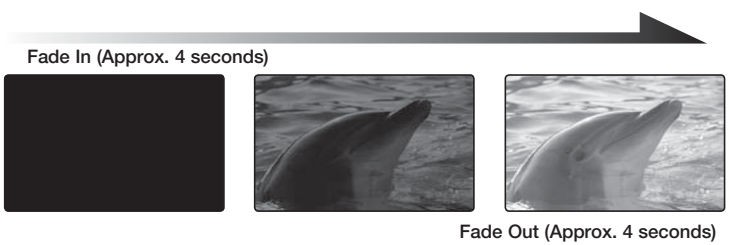


To Stop Recording

4. When you want to stop recording with fade out, press the **Joystick,** then move the **Joystick (▶)** to the right.
   - Move the **Joystick (▶)** to the right fade function to select **"Fade On"**.
5. Press the **Recording start/stop** button to stop recording.
   - The picture and sound gradually disappear. (Fade Out)





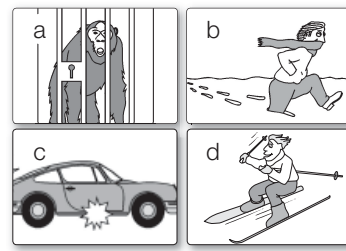


AUTO FOCUS / MANUAL FOCUS

- The Auto Focus/Manual Focus function works in **Camera** modes. ➥page 18
- In most situations, it is better to use the automatic focus feature, as it enables you to concentrate on the creative side of your recording.
- Manual focusing may be necessary under certain conditions that make automatic focusing difficult or unreliable.
- Adjust the Auto Focus / Manual Focus functions only by using the Joystick.

Auto Focus

- If you are inexperienced in the use of camcorders, we recommend that you make use of auto focus.



Manual Focus

- In the following situations, you may obtain better results by adjusting the focus manually.

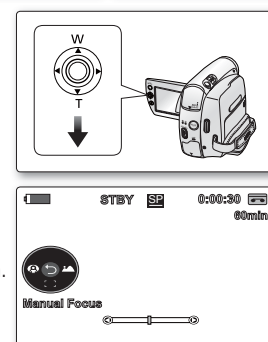
a. A picture containing several objects, some close to the camcorder, others further away.
b. A person enveloped in fog or surrounded by snow.
c. Very shiny or glossy surfaces like a car.
d. People or objects moving constantly or quickly like an athlete or a crowd.

Setting the Focus

1. Press the **MODE** button to set **Camera** ( ).
2. Press the **Joystick**.
- Quick menu will appear.

3. Move the **Joystick down (▼)** to select the **"Manual Focus"** mode.
- You can toggle between **"Auto Focus"** and **"Manual Focus"** by moving down the **Joystick** (▼).
- Move the **Joystick (◀ / ▶)** left or right to select the desired manual focus value, then press the **Joystick**.

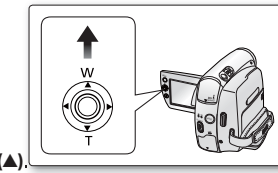
4. To exit, press the **Joystick**.
- Manual focus indicator ( ) and the status bar will be displayed on the LCD screen.



Manual focus is not available in the EASY.Q mode.

SETTING THE SHUTTER SPEED & EXPOSURE

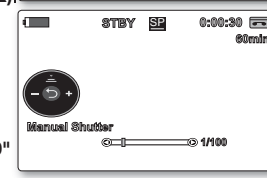
- The Shutter Speed function works only in **Camera** mode. ➥page 18
- The Exposure function works in **Camera** modes. ➥page 18
- The Shutter Speed and Exposure functions can only be adjusted by using the **Joystick**.



1. Press the **MODE** button to set **Camera** ( ).
2. Press the **Joystick**.
   - Quick menu will appear.

Setting the Shutter Speed

3. Move the **Joystick (◀)** to the left to select **"Auto Shutter** ( )**"** mode.
   - In Auto mode, move up the **Joystick (▲)** to switch the mode to manual.
   - You can also toggle between Auto Shutter and Manual Shutter by moving up the **Joystick (▲)**.
4. Move the **Joystick (◀ / ▶)** left or right to select the desired shutter speed value, then press the **Joystick**.
   - Shutter speed can be set to **"1/60"**, **"1/100"**, **"1/250"**, **"1/500"**, **"1/1000"**, **"1/2000"**, **"1/4000"** or **"1/10000"** of a second.

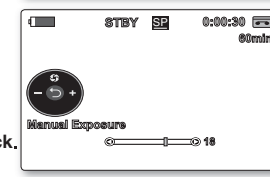


Recommended Shutter Speeds when Recording:

- Outdoor sports such as golf or tennis: **"1/2000"** or **"1/4000"**
- Moving cars or trains or other rapidly moving vehicles such as roller coasters: **"1/1000"**, **"1/500"** or **"1/250"**
- Indoor sports such as basketball: **"1/100"**

Setting the Exposure

3. Move up the **Joystick (▲)** to select **"Auto Exposure ( )"** mode.
   - In Auto mode, move up the **Joystick (▲)** to switch the mode to manual.
   - You can also toggle between Auto Exposure and Manual Exposure by moving up the **Joystick (▲)**.
4. Move the **Joystick (◀ / ▶)** left or right to select the desired exposure value, then press the **Joystick.**
   - Exposure value can be set between **"00"** to **"29".**
5. To exit, press the **Joystick**.
   - Selected settings are displayed.



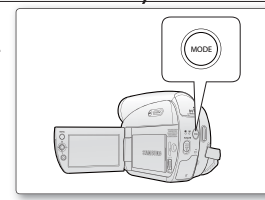
Manual exposure is recommended in situations listed below:

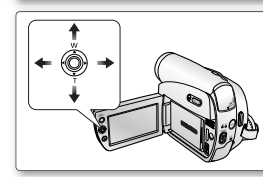
- When shooting using reverse lighting or when the background is too bright.
- When shooting on a reflective natural background such as at the beach or when skiing.
- When the background is overly dark or the subject is bright.

- If you manually change the shutter speed and the exposure value when program AE option is selected, manual changes are applied first.
- The image may not seem as smooth when a high shutter speed is set.
- The camcorder returns to the auto shutter and auto exposure settings when you change to the EASY.Q mode.
- When recording with a shutter speed of 1/1000 or higher, make sure the sun is not shining into the lens.

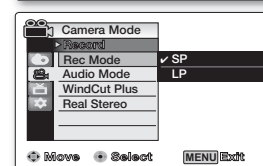
SELECTING THE RECORD MODE & AUDIO MODE (Rec Mode & Audio Mode)

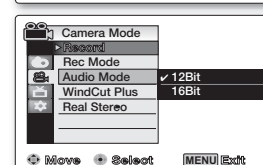
- The Record mode function works in both **Camera** and **Player** modes. ➥page 18
- This camcorder records and plays back in SP (standard play) mode and in LP (long play) mode.
  - **"SP"** : This mode allows 60 minutes of recording time with a DVM60 tape.
  - **"LP"** : This mode allows 90 minutes of recording time with a DVM60 tape.
- The Audio mode function works in both **Camera** and **Player** modes. ➥page 18
- This camcorder records sound in two ways. (**12Bit**,**16Bit**)
  - **"12Bit"** : You can record two 12Bit stereo sound tracks. The original stereo sound can be recorded onto the main (Sound1) track. Additional stereo sound can be dubbed onto the sub (Sound2) track.
  - **"16Bit"** : You can record one high quality stereo soundtrack using 16Bit recording mode. Audio dubbing is not possible when using this mode.





1. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).
2. Press the **MENU** button.
   - The menu list will appear
3. Move the **Joystick (▲ / ▼)** up or down to select **"Record"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Rec Mode"**or **"Audio Mode"**, then press the **Joystick**.
5. Move the **Joystick (▲ / ▼)** up or down to select the desired record mode or audio mode, then press the **Joystick**.
   - Rec mode can be set to **"SP"** or **"LP"**.
   - Audio mode can be set to **"12Bit"** or **"16Bit"**.
6. To exit, press the **MENU** button.
   - The selected indicator is displayed.
   - When **"12Bit"** is selected, no indicator is displayed.





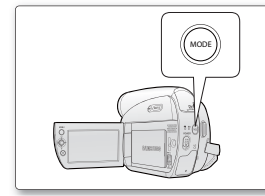
- We recommend that you use this camcorder to play back any tapes recorded on this camcorder. Playing back a tape recorded in other equipment may produce mosaic shaped distortion.
- When you record a tape in SP and LP modes, or LP mode only, the playback picture may be distorted or the time code may not be written properly if there is a gap between scenes.
- Record using SP mode for best picture and sound quality.

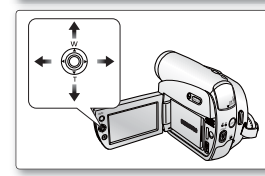
CAUTION

To edit audio on your camcorder, you must set 12Bit for the Audio mode and SP for the Rec mode.

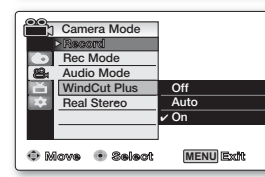
CUTTING WIND NOISE (WINDCUT PLUS)

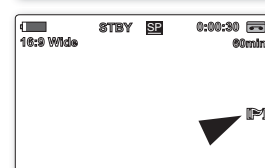
- The windcut plus function works in both **Camera** and **Player** (Audio dubbing) modes. ➥page 18
- Use the windcut plus when recording in windy places such as the beach or near buildings.
- The windcut plus function minimizes wind or other noises while recording.
  - When the windcut plus is on, some low pitched tones are eliminated along with the sound of the wind.





1. Press the **MODE** button to set **Camera** ( ) or **Player** ( ).
2. Press the **MENU** button.
   - The menu list will appear
3. Move the **Joystick (▲ / ▼)** up or down to select **"Record"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"WindCut Plus"**, then press the **Joystick**.
5. To activate the windcut plus function, move the **Joystick (▲ / ▼)** up or down to select the windcut plus type, then press the **Joystick**.
   - **"Off"**: Disables the function
   - **"Auto"**: Minimizes the wind noise while preserving voices.
   - **"On"**: Removes the low pitched wind noise.
6. To exit, press the **MENU** button.
   - WindCut Plus (**"On"** ( ) or **"Auto"** ( )) indicator is displayed.

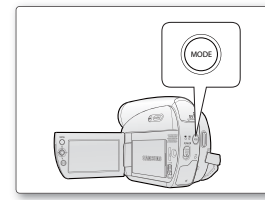




Make sure windcut plus is set to off when you want the microphone to be as sensitive as possible.

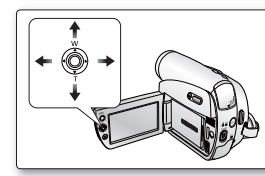
SELECTING THE REAL STEREO FUNCTION (REAL STEREO)

- The Real Stereo function works only in **Camera** mode. ➥page 18
- Real stereo enhances the left and right input signals when using the internal microphone.



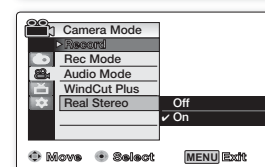
1. Press the **MODE** button to set **Camera** ( ).

2. Press the **MENU** button.
- The menu list will appear



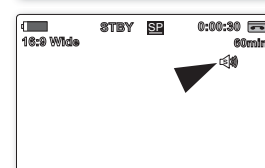
3. Move the **Joystick (▲ / ▼)** up or down to select **"Record"**, then press the **Joystick** or move the **Joystick (▶)** to the right.

4. Move the **Joystick (▲ / ▼)** up or down to select **"Real Stereo"**, then press the **Joystick**.



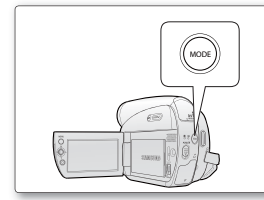
5. To activate the Real Stereo function, move the **Joystick (▲ / ▼)** up or down to select **"On"**, then press the **Joystick**.
- If you do not want to use the Real Stereo function, set the **"Real Stereo"** menu to **"Off"**.

6. To exit, press the **MENU** button.
- Real Stereo ( ) indicator is displayed.



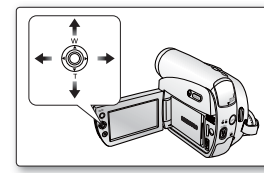
SETTING THE PROGRAM AE (PROGRAM AE)

- The Program AE function works only in **Camera** mode. ➥page 18
- The Program AE mode allows you to adjust shutter speeds and apertures to suit different recording conditions.
- They give you creative control over the depth of field.



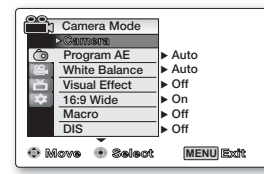
1. Press the **MODE** button to set **Camera** ( ).

2. Press the **MENU** button.
- The menu list will appear



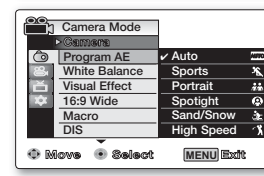
3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.

4. Move the **Joystick (▲ / ▼)** up or down to select **"Program AE"**, then press the **Joystick**.
- The available options are listed.



5. Move the **Joystick (▲ / ▼)** up or down to select the desired program AE option, then press the **Joystick**.

6. To exit, press the **MENU** button.
- The indicator of the selected mode is displayed.
- When the **"Auto"** mode is selected, no indicator is displayed.



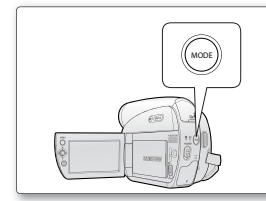
SETTING THE PROGRAM AE (PROGRAM AE)

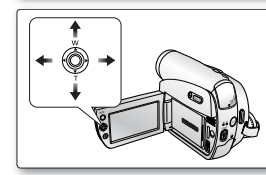
Settings	Contents	On-screen display
Auto	- Auto balance between the subject and the background. - To be used in normal conditions. - The shutter speed is automatically adjusted from 1/60 to 1/250 per second, depending on the scene.	
Sports	- Reduces blurring when recording rapidly moving subjects such as in golf or tennis games. If the Sports mode is used under a fluorescent light, the image may flicker. In this case, use the Auto mode for recording.	
Portrait	- Creates a shallow depth of field so that the person or subject appears against a softened background. - The portrait mode is most effective when used outdoors. - The shutter speed is automatically adjusted from 1/60 to 1/1000 per second.	
Spotlight	- Prevents overexposure of subject's face, etc. when strong light strikes the subject, as in a wedding or on stage.	
Sand/ Snow	- Prevents underexposure of subject's face, etc. in a place where reflection of light is intense, such as at the beach in midsummer or on a ski slope.	
High Speed	- For recording fast-moving subjects such as players in golf or tennis games.	

- The Program AE function will not operate in EASY.Q mode.
- The Program AE cannot be set when the Shutter Speed or the Exposure is set to manual.

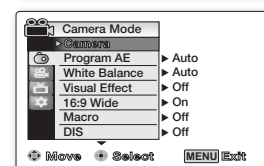
SETTING THE WHITE BALANCE (WHITE BALANCE)

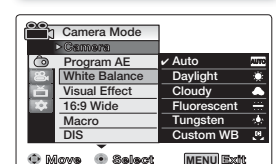
- The White Balance function works in **Camera** modes. ➥page 18
- The White Balance is a recording function that preserves the unique image color of the object in any recording condition.
- You may select the appropriate White Balance mode to obtain good quality image color.





1. Press the **MODE** button to set **Camera** ( ).
2. Press the **MENU** button.
   - The menu list will appear
3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"White Balance"**, then press the **Joystick**.
   - The available options are listed.
5. Move the **Joystick (▲ / ▼)** up or down to select the desired white balance mode, then press the **Joystick**.
6. To exit, press the **MENU** button.
   - The indicator of the selected mode is displayed.
   - When the **"Auto"** mode is selected, no indicator is displayed.





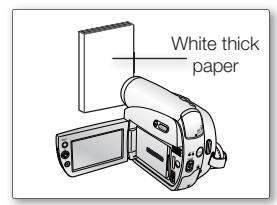
Settings	Contents	On-screen display
Auto	This option is generally used to control the white balance automatically.	AUTO
Daylight	This controls the white balance according to the outdoor ambience, especially for close up and when the subject is of one dominant color.	
Cloudy	This option should be used when making a recording in cloudy weather.	
Fluorescent	This option should be used when making a recording under white fluorescent lights.	
Tungsten	This option is for when there is less than 3200K of tungsten light being used.	
Custom WB	You can manually adjust white balance to match the light source or situation	

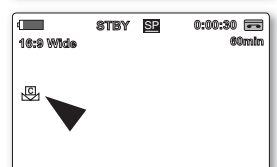
Setting the white balance manually :

1. Select **"Custom WB"**.
- The indicator ( ) and the message **"Set white balance"** are displayed.

2. Frame a white object such as a piece of paper so that it fills the screen. Use an object that is not transparent.
- If the object that fills the screen is not focused, correct the focus using **"Manual Focus"** ➥page 41

3. Press the **Joystick**.
- The white balance setting will be applied and indicator ( ) is displayed.

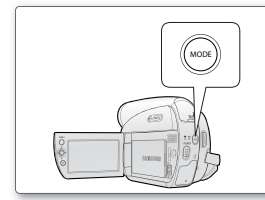




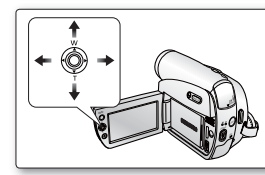
- The White Balance function will not operate in EASY.Q mode.
- It is recommended that you set **"Digital Zoom"** to **"Off"** before setting white balance. ➥page 56.
- Reset the white balance if lighting conditions change.
- During normal outdoor recording, setting to Auto may provide better results.
- Pressing the **MENU** button while setting the Custom WB will cancel the Custom WB setting and sets the White Balance to "**Auto**".

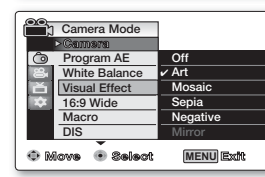
APPLYING VISUAL EFFECTS (VISUAL EFFECT)

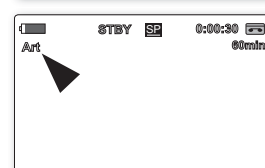
- The visual effect function works only in **Camera** mode. ➥page 18
- The visual effects enable you to give a creative look to your recording.
- Select the appropriate visual effect for the type of picture that you wish to record and the effect you wish to create. There are 10 visual effect modes.



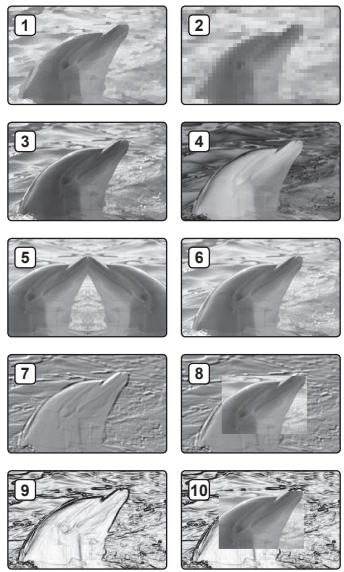
1. Press the **MODE** button to set **Camera** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Visual Effect"**, then press the **Joystick**.
   - The available options are listed.
5. Move the **Joystick (▲ / ▼)** up or down to select the desired visual effect option, then press the **Joystick**.
   - The display mode is set to the selected mode.
6. To exit, press the **MENU** button.







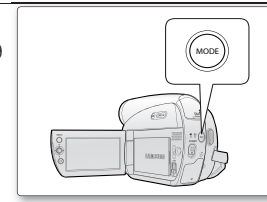
Settings	Contents
Off	Disables the function.
1 **Art**	This mode gives the images a coarse effect.
2 **Mosaic**	This mode gives the images a mosaic effect.
3 **Sepia**	This mode gives the images a reddish-brown pigment.
4 **Negative**	This mode reverses the colors, creating a negative image.
5 **Mirror**	This mode cuts the picture in half, using a mirror effect.
6 **BLK&WHT**	This mode changes the images to black and white.
7 **Emboss1**	This mode creates a 3D effect (embossing).
8 **Emboss2**	This mode creates a 3D effect (embossing) on surrounding area of an image.
9 **Pastel1**	This mode applies a pale pastel drawing effect to an image.
10 **Pastel2**	This mode applies a pale pastel drawing effect to the surrounding area of an image.



- **"Mirror"** mode is not available in the **"16:9 Wide"** mode. Release the 16:9 Wide mode first to set Mirror mode. ➥page 52
- **Visual Effect** modes are not available while **EASY.Q** is in use.
- The **"Mosaic", "Mirror", "Emboss2", "Pastel1"** and **"Pastel2"** modes are not available while **DIS** or **C.Nite** is in use. (Once **"DIS"** or **"C.Nite"** is set, **"Mosaic", "Mirror", "Emboss2"**, **"Pastel1"** or **"Pastel2"** mode will be released.)
- **"Digital Zoom"** is not available in the **"Mosaic", "Mirror", "Emboss2"** , **"Pastel1"** or **"Pastel2"** mode.

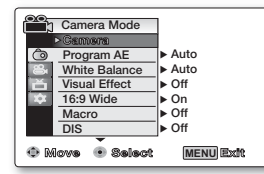
SETTING THE 16:9 WIDE MODE (16:9 WIDE)

- The 16:9 wide function works only in **Camera** mode. ➥page 18
- Recordings in 16:9 wide will play back naturally only when the TV supports the 16:9 aspect ratio.
- This product is set to 16:9 wide by the factory default.



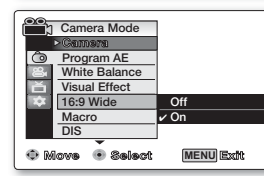
1. Press the **MODE** button to set **Camera** ( ).

2. Press the **MENU** button.
   - The menu list will appear.



3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.

4. Move the **Joystick (▲ / ▼)** up or down to select **"16:9 Wide"**, then press the **Joystick**.



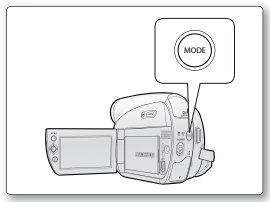
5. To activate the 16:9 wide function, move the **Joystick (▲ / ▼)** up or down to select **"On"**, then press the **Joystick**.
   - If you do not want to use the 16:9 wide function, set the **"16:9 Wide"** menu to **"Off"**.

6. To exit, press the **MENU** button.
   - 16:9 wide indicator is displayed.

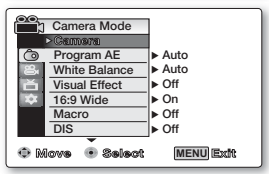
You cannot set the following functions in the 16:9 Wide mode. If you want to use the following functions, set the **"16:9 Wide"** menu to **"Off"** first.
- **"Mirror"** (Visual Effect)

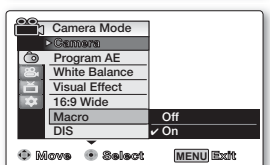
USING THE TELE MACRO (MACRO)

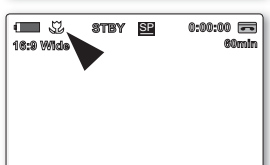
- Tele Macro function works in **Camera** mode. ➥page 18
- Effective focal distance in Tele Macro mode is 50 cm (19.7 inches) to 100 cm (39.4 inches).



1. Press the **MODE** button to set **Camera** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Macro"**, then press the **Joystick**.
5. To activate the Macro function, move the **Joystick (▲ / ▼)** up or down to select **"On"**, then press the **Joystick**.
   - If you do not want to use the Macro function, set the **"Macro"** menu to **"Off"**.
6. To exit, press the **MENU** button.
   - Tele Macro ( ) indicator is displayed.



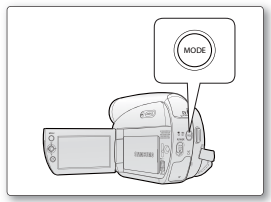




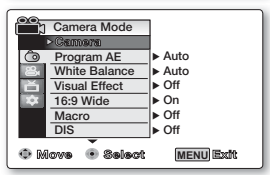
- When recording in Tele Macro mode, the focus speed may be slow.
- When you operate the zoom function in the Tele Macro mode, the recording subject may be out of focus.
- Use a tripod (not supplied) to prevent hand shake in the Tele Macro mode.
- Avoid shadows when recording in the Tele Macro mode.
- As the distance to the subject decreases, focusing area narrows.
- When you can not achieve proper focus, use the **Joystick (W/T)** or **Zoom** lever.

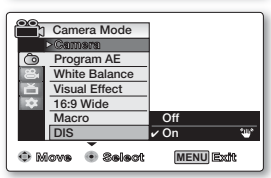
SETTING THE DIGITAL IMAGE STABILIZER (DIS)

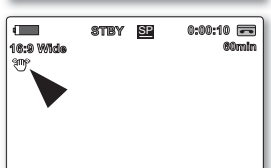
- The DIS function works only in **Camera** mode. ➥page 18
- DIS (Digital Image Stabilizer) is a function that compensates for any shaking or hand movement while holding the camcorder (within reasonable limits).
- It provides more stable pictures when:
  - Recording with the zoom
  - Recording a small object close-up
  - Recording and walking at the same time
  - Recording through the window of a vehicle



1. Press the **MODE** button to set **Camera** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"DIS"**, then press the **Joystick**.
5. To activate the DIS function, move the **Joystick (▲ / ▼)** up or down to select **"On"**, then press the **Joystick**.
   - If you do not want to use the DIS function, set the **"DIS"** menu to **"Off"**.
6. To exit, press the **MENU** button.
   - DIS ( ) indicator is displayed.







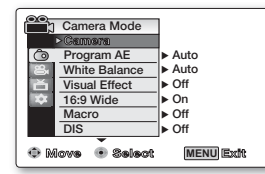
- EASY.Q mode automatically sets the **"DIS"** to **"On"**.
- You cannot set the following functions in the **DIS** mode.
  : **"Mosaic", "Mirror", "Emboss2", "Pastel1", "Pastel2", "C.Nite", "Digital Zoom"**
- Setting the DIS function in 16:9 Wide mode may produce lower quality than in normal mode.
- It is recommended that you deactivate the DIS function when using a tripod.
- If you use the DIS function, the picture quality may deteriorate.

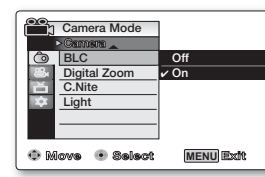
USING BACK LIGHT COMPENSATION MODE (BLC)

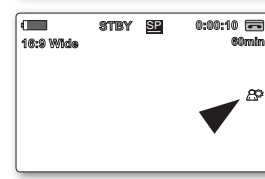
- BLC works in **Camera** modes. ➥page 18
- Back lighting exists when the subject is darker than the background:
  - The subject is in front of a window.
  - The person to be recorded is wearing white or shiny clothes and is placed against a bright background; the person's face is too dark to distinguish his/her features.
  - The subject is outdoors and the background is overcast.
  - The light sources are too bright.
  - The subject is against a snowy background.

<BLC Off>

<BLC On>





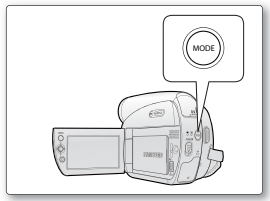


1. Press the **MODE** button to set **Camera** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"BLC"**, then press the **Joystick**.
5. Move the **Joystick (▲ / ▼)** up or down to select **"On"**, then press the **Joystick**.
   - If you do not want to use the BLC function, set the **"BLC"** menu to **"Off"**.
6. To exit, press the **MENU** button.
   - BLC ( ) indicator will be displayed.

This function will be set to **"Off"** in the EASY Q mode.

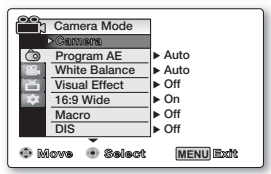
ZOOMING IN AND OUT WITH DIGITAL ZOOM (DIGITAL ZOOM)

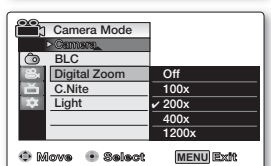
- Maximum Digital Zoom works only in **Camera** mode. ➥page 18
- You can select the maximum zoom level in case you want to zoom to a level greater than 34x (the default setting) during recording. Up to 34x zoom is performed optically, and after that, up to 1200x zoom is performed digitally.
- The picture quality may deteriorate depending on how much you digitally zoom in on the subject.

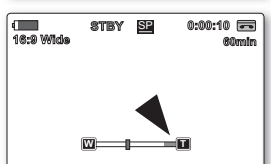


Selecting the Digital Zoom

1. Press the **MODE** button to set **Camera** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Digital Zoom"**, then press the **Joystick**.
5. Move the **Joystick (▲ / ▼)** up or down to select the desired zoom value **"Off"**, **"100x"**, **"200x"**, **"400x"** or **"1200x"**, then press the **Joystick**.
   - **"Off"** : Optical zoom is only available up to 34x.
6. To exit, press the **MENU** button.
   - Move the **Joystick (▲ / ▼)** up or down, or move the **Zoom** lever to use the digital zoom.
   - The digital zoom indicator appears.



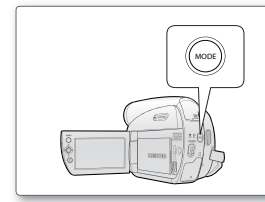




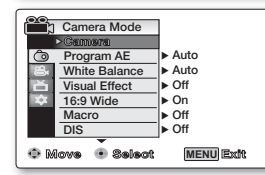
- Maximum digital zooming may result in lower picture quality.
- You cannot set the **Digital Zoom** mode in the following modes. Please release these functions first to set the Digital Zoom mode: **"EASY.Q", "Mosaic", "Mirror", "Emboss2", "Pastel1", "Pastel2", "DIS"**
- The Digital Zoom mode does not work in the following situations:
  - **Tape Photo Recording** (When recording a photo image on a tape)
  - While **"EASY.Q", "Mosaic", "Mirror", "Emboss2", "Pastel1", "Pastel2"** or **"DIS"** mode is in use.
- When you set the **DIS** mode while **Digital Zoom** mode is in use, Digital Zoom mode will be released.
- You cannot set the **C.Nite** mode while the **Digital Zoom** mode in use.

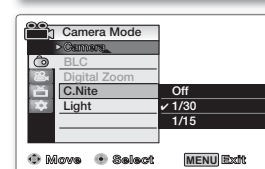
USING THE COLOR NITE (C.NITE)

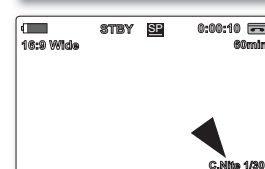
- C.Nite function works only in **Camera** mode. ➥page 18
- You can take a shot of an object in slow motion by controlling the shutter speed, or a brighter image in dark places without compromising colors.



1. Press the **MODE** button to set **Camera** ( ).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"C.Nite"**, then press the **Joystick**.
5. Move the **Joystick (▲ / ▼)** up or down to select the C.Nite type, then press the **Joystick**.
   - C.Nite type: **"Off"**, **"1/30"**, **"1/15"**.
6. To exit, press the **MENU** button
   - The indicator of the selected mode is displayed.
   - When the **"Off"** mode is selected, no indicator is displayed.



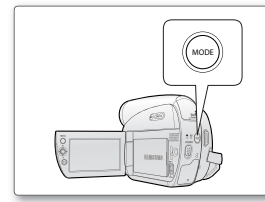




- When using C.Nite, the image takes on a slow motion like effect.
- When using C.Nite, the focus adjusts slowly and white dots may appear on the screen. This is not a defect.
- The C.Nite function does not work in the following situations:
  - When DIS or EASY.Q is set.
- While using the C.Nite function, you can not use the following functions:
  - **"Program AE", "Mosaic", "Mirror", "Emboss2", "Pastel1", "Pastel2", "BLC", "Digital Zoom", "Shutter", "Exposure"**
  - **Tape Photo Recording**
- If DIS is set, C.Nite mode will be released.

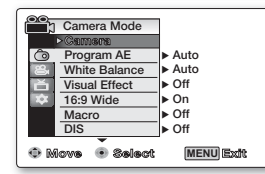
USING THE LIGHT (LIGHT) (SC-D392 ONLY)

- The Light function works only in **Camera** mode. ➥page 18
- The Light function enables you to record a subject in a dark place without compromising colors. For example, you can make a satisfactorily recording of an outdoor gathering at night when you use this function.



1. Press the **MODE** button to set **Camera** ( ).

2. Press the **MENU** button.
- The menu list will appear.

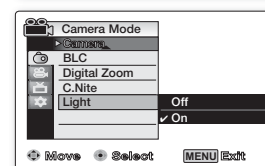


3. Move the **Joystick (▲ / ▼)** up or down to select **"Camera"**, then press the **Joystick** or move the **Joystick (▶)** to the right.

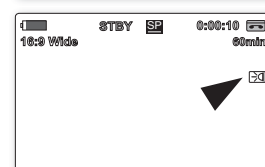
4. Move the **Joystick (▲ / ▼)** up or down to select **"Light"**, then press the **Joystick**.

5. Move the **Joystick (▲ / ▼)** up or down to select **"On"**, then press the **Joystick**.
- To cancel the Light function, set the **"Light"** menu to **"Off"**.

6. To exit, press the **MENU** button.
- Light ( ) indicator will be displayed.



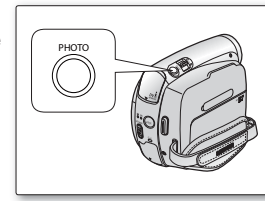
WARNING
- The light can become extremely hot.
- Do not touch it while in operation or soon after turning it off, otherwise serious injury may occur.
- Do not place the camcorder into the carrying case immediately after using the light, since it remains extremely hot for some time.
- Do not use near flammable or explosive materials.



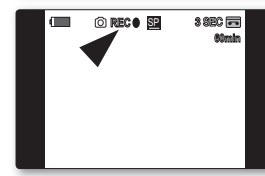
The range of the light is limited. (up to 2m (6.6ft))

RECORDING A PHOTO IMAGE ON A TAPE -TAPE PHOTO RECORDING

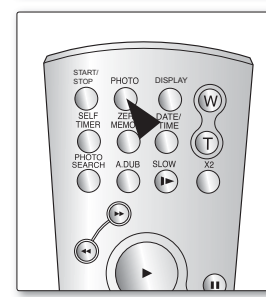
- Tape photo recording works only in **Camera** mode. ➥page 18
- You can record a photo image on a tape. The photo image is recorded and will take up a 6~7 second section of tape.



1. Press the **MODE** button to set **Camera** ( ).
2. Press the **PHOTO** button.
   - **"[cam] REC ●"** is displayed on the LCD screen, the photo image is recorded for about 6~7 seconds.
3. After the photo image has been recorded, the camcorder returns to its previous mode.



- Tape Photo Recording takes about six or seven seconds, and your camcorder returns to the standby mode. During the seven seconds, you cannot record another photo image.
- During the Tape Photo Recording, do not shake your camcorder. Mosaic-pattern noise may appear on the image.
- During the Tape Photo Recording, you can not set the following functions:
  - **"Visual Effect", "DIS" , "Digital Zoom", "C.Nite", "16:9 Wide"**
  (After tape photo recording, most functions return to the previous mode.)
- Tape Photo Recording does not work in the following situations:
  - While recording movie images
  - When **"C.Nite"** is set.
- Press **PHOTO** button on the remote control. Pressing the **PHOTO** button on the remote control records the tape photo image with automatic focusing (SC-D392 only)

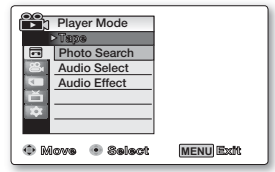


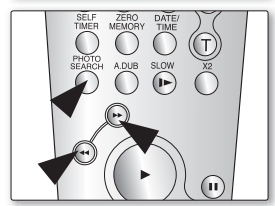
<SC-D392 only>

SEARCHING FOR A PHOTO IMAGE ON A TAPE (PHOTO SEARCH)

- The photo search works only in **Player** mode. ➥page 18

1. Press the **MODE** button to set **Player** (▶).
2. Press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Tape"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Photo Search"**, then press the **Joystick**.
   - ◀◀ / ▶▶ will flicker on the LCD screen.
5. Move the **Joystick (◀ / ▶)** left or right to search the tape photo image.
   - The photo search process appears while you are searching.
   - After completing the search, the camcorder displays the tape photo image.
   - When there are no photo images recorded on the tape, it will be fully rewound or forwarded.
6. To stop the photo search, move the **Joystick** down **(▼)** or press the **MENU** button.





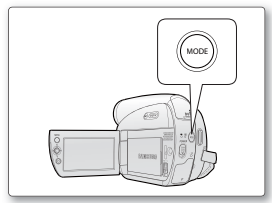
<SC-D392 only>

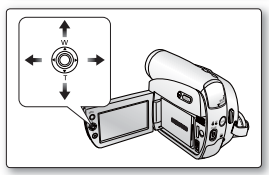
- The remote control will help you search for a desired photo image. (SC-D392 only)
  - In STOP mode, press the **PHOTO SEARCH** button on the remote control. When the indictor blinks ◀◀ / ▶▶ on the screen, use the ◀◀ (rewind) or ▶▶ (fast forward) button to search for a desired image.

PLAYING BACK A TAPE ON THE LCD SCREEN

- The playback function and speaker works only in **Player** mode. ➥page 18
- You can monitor the playback picture on the LCD screen.

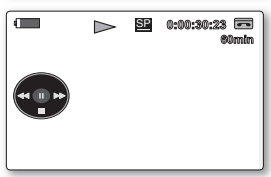
1. Insert the tape you wish to view. ➥page 33
2. Press the **MODE** button to set **Player** (▶).
3. Open the LCD screen.
   - Adjust the angle of the LCD screen and set the brightness or color if necessary. ➥page 30
4. Press the **Joystick**, then move the **Joystick (◀/▶)** left or right to rewind or forward the tape to the starting point.
   - To stop rewinding or forwarding, move the **Joystick** down **(▼)**.
   - The camcorder stops automatically after rewinding or forwarding is completed.
5. Press the **Joystick** to start playback.
   - You can view the picture you recorded on the LCD screen.
   - To stop the play operation, move the **Joystick** down **(▼)**.





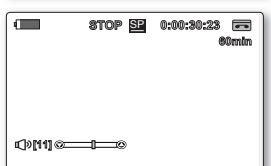
Adjusting the LCD Bright / LCD Color during Playback

- You can adjust the LCD bright/LCD color during playback.
- The adjustment method is the same procedure as used in **Camera** mode. ➥page 31



Adjusting the Volume

- When you use the LCD screen for playback, you can hear recorded sound from the built-in speaker.
  - Take the following steps to lower the volume or mute the sound while playing a tape on the camcorder.
- When sound is heard once the tape is in play, use the **Zoom(VOL)** lever to adjust the volume.
  - A volume level display will appear on the LCD screen.
  - Levels may be adjusted from anywhere between **"00"** to **"19"**.
  - If you close the LCD screen while playing, you will not hear sound from the speaker.
- When the Audio/Video cable is connected to the camcorder, you cannot hear sound from the built-In speaker and cannot adjust the volume.



VARIOUS FUNCTIONS WHILE IN PLAYER MODE

- This function works only in **Player** mode. ➥page 18
- The **PLAY**, **PAUSE**, **STOP**, **FF** and **REW** buttons are located on the remote control (SC-D392 only), all of whose functions can also be operated with the **Joystick (▲/▼/◀/▶)** on the camcorder.
- The **F.ADV** (Frame advance), **X2** and **SLOW** buttons are located on the remote control only. (SC-D392 only)
- To prevent tape and head-drum wear, your camcorder will automatically stop if it is left in pause or slow modes for more than 3 minutes.

Playback/Pause

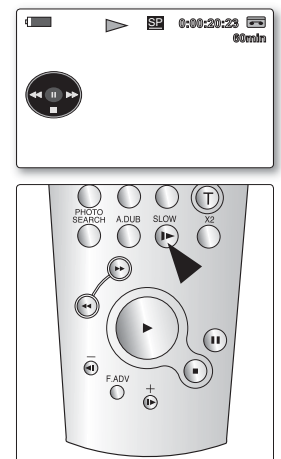
- Press the **Joystick** during playback.
- To resume playback, press the **Joystick**.
  (Press the **▶(PLAY)** or **II (PAUSE)** button on the remote control.)

Picture Search (Forward/Reverse)

- Move the **Joystick (◀/▶)** left or right during playback or pause mode.
  To resume normal playback, press the **Joystick**.
  (Press the **◀◀ (REW)** / **▶▶ (FF)** buttons on the remote control.)

Slow Playback (Forward/Reverse) (SC-D392 only)

- Forward Slow Playback
  - Press the **I►(SLOW)** button on the remote control during playback.
  - To resume normal playback, press the **▶(PLAY)** button.
- Reverse Slow Playback
  - Press the **◀II (-)** button during forward slow playback.
  - To resume forward slow playback, press the **II▶(+)** button.
  - To resume normal playback, press the **▶(PLAY)** button.

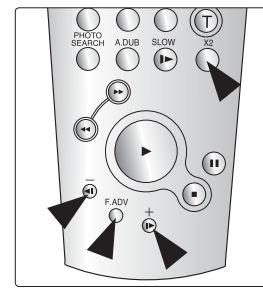


<SC-D392 only>

playback

Frame Advance (To play back frame by frame) (SC-D392 only)

- Press the **F.ADV** button on the remote control while in pause mode.
  - Video sequence advances frame by frame each time you press the **F.ADV** button or **II▶(+)** button.
  - The F.ADV function works in pause mode only.
- To resume normal playback, press the **▶(PLAY)** button.
  - **Forward frame advance.**
    Press the **F.ADV** button or **II▶(+)** button on the remote control in pause mode.
  - **Reverse frame advance**
    Press the **◀II (-)** button on the remote control to change the direction in F.ADV mode.



<SC-D392 only>

X2 Playback (Forward/Reverse) (SC-D392 only)

- Forward X2 Playback
  - Press the **X2** button on the remote control during playback.
  - To resume normal playback, press the **▶(PLAY)** button.
- Reverse X2 Playback
  - Press the **◀II (-)** button during forward X2 playback.
  - To resume normal playback, press the **▶(PLAY)** button.

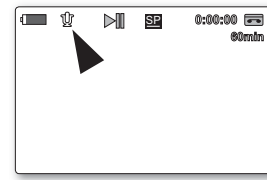
Reverse Playback (SC-D392 only)

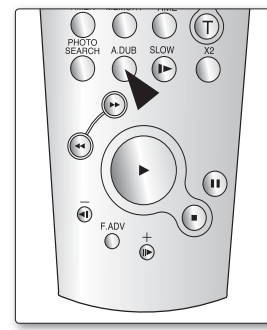
- To play back in reverse at normal speed, press the **◀II (-)** button on the remote control during normal forward playback.
- Press the **▶(PLAY)** button or **II▶(+)** button to return to normal forward playback.

- Mosaic shaped distortion may appear on the screen while in some of the various playback modes. Mosaic shaped distortion or noise may be experienced when you play back tapes recorded in LP which contain various playback functions.
- Sound will only be heard during normal SP or LP playback.
- To activate the remote control, set **"Remote"** to **"On"**. ➥page 25 (SC-D392 only)

AUDIO DUBBING (SC-D392 ONLY)

- This feature enables you to dub your voice through the internal microphone or other audio equipment connected to the camcorder onto a pre-recorded camcorder tape. The original sound on the tape will not be erased.
- The Audio Dubbing function works only in **Player** mode. ➥page 18
- You can not dub sound on a pre-recorded tape in LP or 16 bit mode.
- You can add sound to the original sound on a pre-recorded tape recorded in SP mode with 12bit sound.





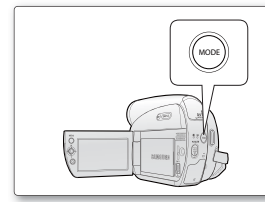
<SC-D392 only>

1. Press the **MODE** button to set **Player** (▶).
2. Move the **Joystick (◀/▶)** left or right and find the time frame of the scene to be dubbed.
3. Press the **Joystick** to playback, and press it again to pause the scene.
   - If you want to resume to playback, just press the **Joystick** again on playback.
4. Press the **A.DUB** button on the remote control.
   - Audio dubbing ( ) indicator is displayed.
   - The camcorder is ready for dubbing.
5. Press the **▶(PLAY)** button (on the remote control) or **Joystick** to start dubbing.
   - Press the **■ (STOP)** button (on the remote control) or move the **Joystick** down **(▼)** to stop the dubbing.

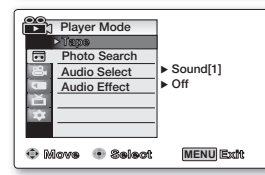
You can not use the Audio Dubbing function while playing a write protected video tape.

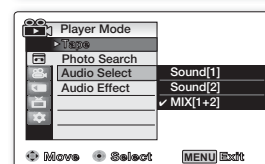
DUBBED AUDIO PLAYBACK (AUDIO SELECT)

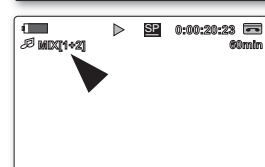
- The dubbed Audio playback function works only in **Player** mode. ➥page 18



1. Press the **MODE** button to set **Player** (▶).
2. Insert the dubbed tape and press the **MENU** button.
   - The menu list will appear.
3. Move the **Joystick (▲ / ▼)** up or down to select **"Tape"**, then press the **Joystick** or move the **Joystick (▶)** to the right.
4. Move the **Joystick (▲ / ▼)** up or down to select **"Audio Select"**, then press the **Joystick**.
5. Move the **Joystick (▲ / ▼)** up or down to select the audio playback channel, then press the **Joystick**.
   - **"Sound[1]"** : Plays the original sound.
   - **"Sound[2]"** : Plays the dubbed sound.
   - **"MIX[1+2]"** : Plays back sound 1 and 2 equally mixed.
6. To exit, press the **MENU** button.
7. Press the **Joystick** to play back the dubbed tape.
   - To stop the dubbed audio playback, move the **Joystick** down **(▼)**.



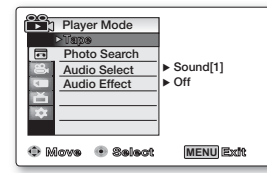




When you play back added sound "**Sound[2]"** or "**MIX[1+2]"**, you may experience a loss of sound quality.

AUDIO EFFECT

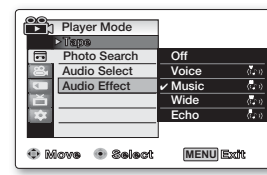
- Audio effect function works only in **Player** mode. ➥page 18
- Audio effect provides various playback effects to audio signals stored on a tape.



1. Press the **MODE** button to set **Player** (▶).

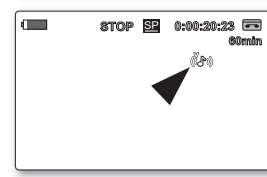
2. Insert the recorded tape and press the **MENU** button.

3. Move the **Joystick (▲ / ▼)** up or down to select **"Tape"**, then press the **Joystick** or move the **Joystick (▶)** to the right.



4. Move the **Joystick (▲ / ▼)** up or down to select **"Audio Effect"**, then press the **Joystick**.

5. Move the **Joystick (▲ / ▼)** up or down to select the audio effect channel, then press the **Joystick**.
- **"Off"**: Disables the function.
- **"Voice"**: Highlights the human voice.
- **"Music"**: Highlights the sound by enhancing the bass and treble.
- **"Wide"**: Magnifies the stereo effect by enhancing the left and right sounds.
- **"Echo"**: Gives an echo effect.



6. To exit, press the **MENU** button.

- We recommended connecting to external stereo devices (TV, speakers) for better audio effects.
- Audio effect function is not available with DV connection.

PLAYING BACK A TAPE ON A TV SCREEN

- The playback function works only in **Player** mode. ➥page 18
- To play back a tape, the television must be NTSC compatible. ➥page 75
- We recommend that you use the AC power adapter as the power source for the camcorder.

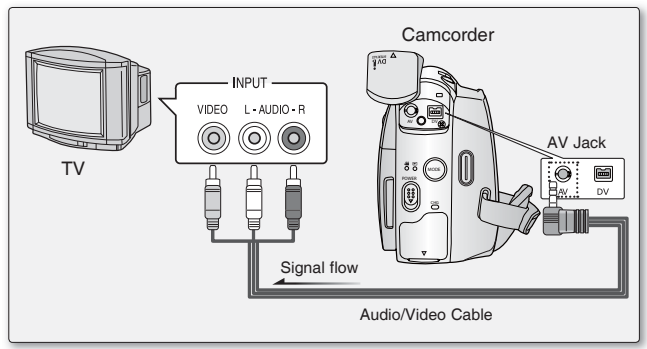
Connecting to a TV that has Audio/Video Input Jacks

1. Connect the camcorder to your TV with the Audio/Video cable.
   - The yellow jack: Video
   - The white jack: Audio(L)-mono
   - The red jack: Audio(R)
   - If you connect to a mono TV, connect the yellow jack (Video) to the video input of the TV and the white jack (Audio L) to the audio input of the TV.

2. Press the **MODE** button to set **Player** (▶).

3. Turn on the TV and set the TV/VIDEO selector on the TV to Video.
   - Refer to the TV user's manual.

4. Play the tape. ➥page 68



If you connect the cable to the AV jack, you will not hear sound from the camcorder's speaker.

Connecting to a TV that has no Audio/Video Input Jacks

- You can connect your camcorder to a TV through a VCR.

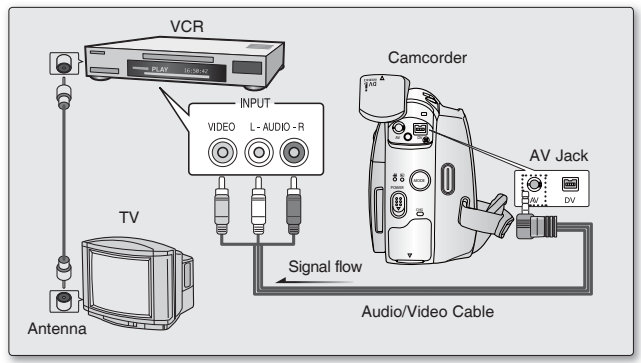
1. Connect the camcorder to your VCR with the Audio/Video cable.
   - The yellow jack: Video
   - The white jack: Audio(L) - mono
   - The red jack: Audio(R)

2. Connect a TV to the VCR.

3. Press the **MODE** button to set **Player** (▶).

4. Turn on both the TV and VCR.
   - Set the input selector on the VCR to line.
   - Select the channel reserved for your VCR on the TV set.

5. Play the tape.



Play back the tape

1. Connect a power source.

2. Insert the tape you wish to play back.

3. Press the **MODE** button to set **Player** (▶).

4. Move the **Joystick (◀/▶)** left or right, find the first position you wish to play back.

5. Press the **Joystick**.
   - The images you recorded will appear on the TV after a few seconds.
   - If a tape reaches its end while being played back, the tape will rewind automatically.

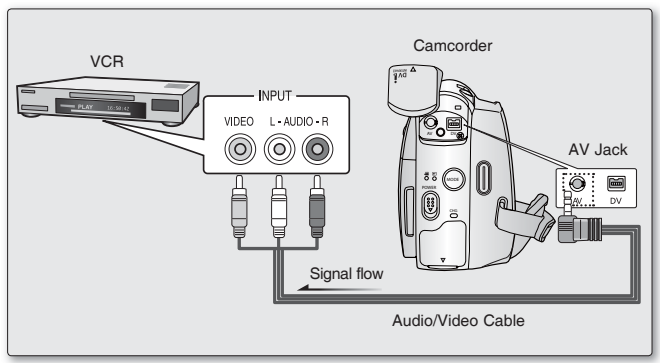
6. To stop the playback, move the **Joystick** down **(▼)**.

- The playback mode (SP/LP) is selected automatically.
- If only a mono audio input is available on the TV set, use the audio cable with the white jack (Audio L).

COPYING A CAMCORDER TAPE ONTO A VIDEO TAPE

- The copying function works only in **Player** Mode. ➥ page 18
- Connect your camcorder to a VCR using the AV jack to copy the recording from a camcorder tape onto a VCR tape.

1. Insert the tape you want to copy in your camcorder.
2. Press the **MODE** button to set **Player** (▶).
3. Insert a new video tape in your VCR.
4. Connect the camcorder to your VCR with the Audio/Video cable.
   - Connect the Audio/Video cable to the input jack on your VCR.
   - The yellow jack: Video
   - The white jack: Audio(L)-mono
   - The red jack: Audio(R)
5. Press the Record button on your VCR to start recording.
6. Play the tape on your camcorder. Please refer to page 69 to see how to play a tape.
   - if you do not want to copy the screen display, set the **"TV Display"** to **"Off"** in the menu. ➥ page 32



When Copying is Complete:

Stop recording on your VCR, then move the **Joystick** down **(▼)** on your camcorder.

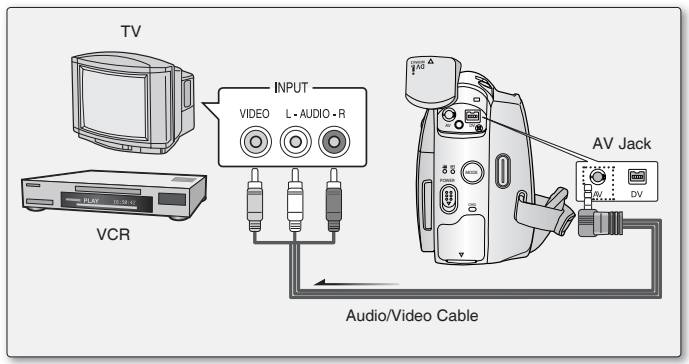
- If you operate the camcorder while connected to another device, always connect the camcorder to an AC outlet using the AC power adapter.
- You can also copy images to other external storage media (such as a DVD Recorder) using this camcorder.

USING THE VOICE+ FUNCTION

- The Voice+ function works only in **Player** mode. ➥ page 18
- When copying (dubbing) a tape recorded on the camcorder to another AV device, you can dub your voice through the camcorder's internal microphone to the device, instead of the existing audio on the recorded tape.

1. Connect the provided Audio/Video cable to the AV Jack of the camcorder.
2. Connect the other end of the cable to the VCR/DVD Recorder/TV by matching the colors of the terminals.
3. Press the **MODE** button to set **Player** (▶).
4. Insert the tape you wish to play back in this camcorder.
5. Press the **Recording start/stop** button at a desired point during playback.
- Voice+ ( ) indicator is displayed on the screen and **"VOICE+"** will flicker on the screen for a while.
- Sound incoming from the internal microphone will be transferred to the connected AV device, instead of the pre-recorded sound on the tape.

7. To cancel the function, press the **Recording start/stop** button again.



- Voice+ is available only when the Audio/Video cable is connected. If a different cable (DV cable) is connected, Voice+ function may not operate properly.
- If you move the **Joystick (▲/▼/◀/▶)** when you operate Voice+ function, Voice+ function will be deactivated.
- During the Voice+ process, the **MENU** and **PHOTO** button functions do not work.
- The Voice+ function does not affect the original sound on the recorded tape.
- Sound is transferred from the internal microphone on this camcorder to the connected AV device, when using the Voice+ function. So make sure that this microphone is not blocked.
- Adjust the sound volume on the connected external device. (TV, etc.)
- Feedback may occur if you move the camcorder too close to the speaker of the external device.
- Before connecting, make sure that the volume on the external device is turned down. Forgetting this may cause feedback from the external device's speakers.

IEEE 1394 data transfer

TRANSFERRING IEEE1394 (I.LINK)-DV STANDARD DATA CONNECTIONS

Connecting to a DV Device (DVD Recorder, Camcorder, etc.)

- Connecting to other standard DV products.
  - A standard DV connection is quite simple.
  - If a device has a DV jack, you can transfer data from this camcorder to it by connecting to the DV jack using the correct DV cable (not supplied).
  - This camcorder has a 4-pin jack. To connect to a DV device (such as a DVD camcorder) which has a 6-pin jack, use a DV 4-pin-to-6pin cable. To connect to another device which has a 4-pin jack, use a DV 4-pin-to-4pin cable.
- With a digital connection, video and audio signals are transmitted in digital format, allowing high quality images to be transferred.

Connecting to a PC

- If you want to transmit data to a PC, you must install an IEEE 1394 add-on card into the PC. (not supplied)
- The frame rate for moving images is dependent on the capacity of the PC.

System Requirements

- CPU: faster Intel® Pentium III™ 450MHz compatible.
- Operating system: Windows® 98SE, ME, 2000, XP, VISTA, Mac OS (9.1~10.4)
- Main memory: more than 64 MB RAM
- IEEE1394 add-on card or built in IEEE1394 card

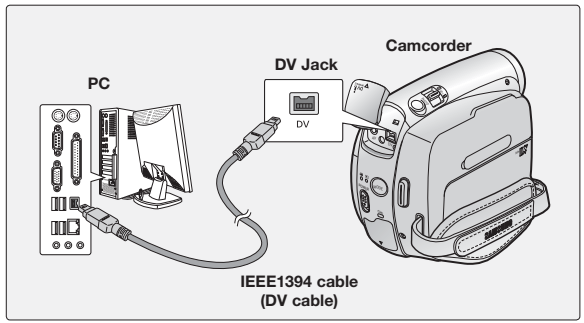
- Operation is not guaranteed for all the recommended computer environments mentioned above.
- IEEE 1394 is an international standard standardized by the Institute of Electrical and Electronics Engineers.
- A DV device that does not comply with the DV standard specification may not supported.
  Refer to the product documentation of the device to be connected for further details on notes and compatible software applications.

WARNING

Please be careful since there are two types of DV jacks (4pin, 6pin). This camcorder has a 4pin jack.

Recording with a DV Connection Cable

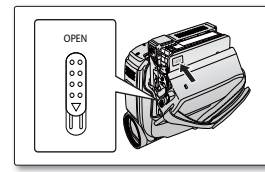
1. Press the **MODE** button to set **Player** (▶).
2. Connect the DV cable (not supplied) from the DV jack of the camcorder to the DV jack of the other DV device.
   - Make sure that (DV) is displayed.
3. Press the **Recording start/stop** button to begin REC PAUSE mode.
   - **"PAUSE"** is displayed.
4. Start playback on the other DV device while you monitor the picture.
5. Press the **Recording start/stop** button to start recording.
   - If you want to pause recording momentarily, press the **Recording start/stop** button again.
6. To stop recording, move the **Joystick** down **(▼)**.

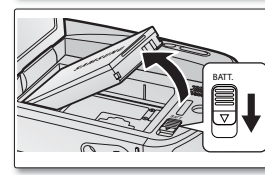


- When you transmit data from the camcorder to another DV device, some functions may not work. If this occurs, please reconnect the DV cable or turn the power OFF and ON again.
- Do not use another DV device when using IEEE1394.
- The IEEE1394 cable (DV cable) is sold separately.
- Moving image software is commercially available.
- Most DV enabled PCs have a 6 pin jack. In this case, a 6pin/4pin cable is required for the connection.
- Most DV enabled notebooks and Laptops have a 4 pin socket. Use a 4pin/4pin cable for the connection.
- DIS and C.Nite features are not available when in DV (IEEE1394) mode. If DV (IEEE1394) mode is set, DIS and C.Nite modes will be released.
- Search (Forward/Reverse) (camera mode) is not available when in DV (IEEE1394) mode.
- When using this camcorder as a recorder, the pictures that appear on a monitor may seem uneven, however recorded pictures will not be affected.

AFTER FINISHING A RECORDING

- At the end of a recording you must remove the power source.
- When recording with a battery pack, leaving the pack on the camcorder can reduce the life span of the battery.





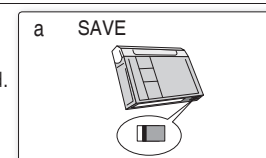
The battery pack should be release after recording is completed.

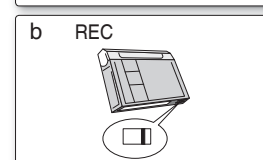
1. Open the cassette compartment cover while sliding the **OPEN** switch in the direction or the arrow.
   - Pull the cassette compartment out automatically.
   - Please wait while the tape is completely ejected.
2. After removing the tape, close the compartment cover and store the camcorder in a dust free environment. Dust and other foreign materials can cause square-shaped noise or jerky images.
3. Turn the miniDV camcorder off.
4. Disconnect the power source or remove the battery pack.
   - Open the LCD panel of the camcorder and slide down the **BATT.** Release switch, on the left side of the body, to remove the battery with a click.

USABLE CASSETTE TAPES

When you have recorded something that you wish to keep, you can protect it so that it will not be accidentally erased.

a. Protecting a tape: Push the safety tab on the cassette so that the hole is uncovered.
b. Removing the tape protection:
   If you no longer wish to keep the recording on the cassette, push the safety tab back so that it covers the hole.





How to store a tape

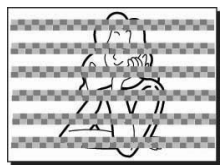
a. Avoid places with magnets or magnetic interference.
b. Avoid humidity and dust prone places.
c. Keep the tape in an upright position and avoid storing it in direct sunlight.
d. Avoid dropping or knocking your tapes.

CLEANING AND MAINTAINING THE CAMCORDER

Cleaning the Video Heads

- To ensure normal recording and clear pictures when recording on tape, clean the video heads when the playback pictures display square block-shaped noise or distortion, or a blue screen appears.
- This function works only in **Player** mode. ➥page 18

1. Press the **MODE** button to set **Player** (▶).



(blue screen)

2. Insert a cleaning tape.

3. Press the **Joystick**.

4. Move the **Joystick** down **(▼)** after 10 seconds.

- Check the quality of the picture using a video cassette.
  - If the picture quality has not improved, repeat the operation.
- Clean the video heads with a dry type cassette cleaner.
- Some cleaning cassette products stop automatically. Refer to the cleaning cassette's instructions for detailed information. If the problem continues after the cleaning, consult your nearest Samsung dealer or Authorized Service Center. (blue screen)

USING YOUR MINIDV CAMCORDER ABROAD

- Each country or region has its own electric and color systems.
- Before using your miniDV camcorder abroad, check the following items.

Power sources

The provided AC adaptor features automatic voltage selection in the AC range from 100 V to 240 V.
You can use your camcorder in any countries/regions using the AC power adaptor supplied with your camcorder within the AC 100 V to 240 V, 50/60 Hz range.
Use a commercially available AC plug adaptor, if necessary, depending on the design of the wall outlet.

On TV color systems

Your camcorder is an **NTSC**-system-based camcorder.
If you want to view your recordings on a TV or to copy it to an external device, it must be an **NTSC**-system-based TV or an external device and have the appropriate Audio/Video jacks. Otherwise, you may need to use a separate video format transcoder (NTSC-PAL format converter).

NTSC-compatible countries/regions
Bahamas, Canada, Central America, Japan, Korea, Mexico, Philippines, Taiwan, United States of America, etc.

PAL-compatible countries/regions
Australia, Austria, Belgium, Bulgaria, China, CIS, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Great Britain, Netherlands, Hong Kong, Hungary, India, Iran, Iraq, Kuwait, Libya, Malaysia, Mauritius, Norway,Romania, Saudi Arabia, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Syria, Thailand, Tunisia, etc.

You can make recordings with your miniDV camcorder and view pictures on the LCD screen from anywhere in the world.

TROUBLESHOOTING

- Before contacting a Samsung authorized service center, perform the following simple checks. They may save you the time and expense of an unnecessary call.

Self Diagnosis Display

Display	Blinking	Informs that...	Action
	slow	The battery pack is almost discharged.	Change to a charged one.
Tape end!	slow	When the remaining time on the tape is about 2 minutes.	Prepare a new one.
Tape end!	no	The tape reached its end.	Change to a new one.
No Tape!	slow	There is no tape in camcorder.	Insert a tape.
Protection!	slow	The tape is protected from recording.	If you want to record, release the protection.
▲ ....D L C R	slow	The camcorder has some mechanical fault.	1. Eject the tape. 2. Turn the camcorder off. 3. Eject the battery pack. 4. Insert the battery pack. * If unresolved contact your local Samsung service center.
	slow	Moisture condensation has formed in the camcorder.	See page 77

troubleshooting

- If these instructions do not solve your problem, contact Samsung customer service at 1-800-SAMSUNG.

Symptom	Explanation/Solution
You cannot switch the camcorder on.	Check the battery pack or the AC Power adapter.
Recording start/stop button does not operate while recording.	Press the **MODE** button to set **Camera** ( ). You have reached the end of the cassette. Check the record protection tab on the cassette.
The camcorder shuts off automatically.	You have left the camcorder set to STBY for more than 5 minutes without using it. The battery pack is fully exhausted.
Charge runs out quickly.	The atmospheric temperature is too low. The battery pack has not been charged fully. The battery pack is completely dead, and cannot be recharged, Use another battery pack.
You see a blue screen during playback.	The video heads may be dirty. Clean the heads with a cleaning tape.
A vertical strip appears on the screen when recording a dark background.	The contrast between the subject and the background is too great for the camcorder to operate normally. Make the background bright to reduce the contrast or use the BLC function while you are recording in bright surroundings. ➥page 55
Auto focus does not work.	Check the Manual Focus menu. Auto focus does not work in the Manual Focus mode. ➥page41
FF or REW, Play function **Joystick (◀/▶)** does not work.	Press the **MODE** button to set **Player** ( ). You have reached the beginning or end of the cassette.
You see a mosaic pattern during playback search.	This is normal operation and it is not a failure or defect. The tape may be damaged. Replace the tape. Cleaning the video heads ➥page 74

Moisture Condensation

- If the camcorder is brought directly from a cold place to a warm place, moisture may condense inside the camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or the unit may not operate correctly.
  To prevent possible damage under these circumstances, the camcorder is fitted with a moisture sensor.
- If there is moisture inside the camcorder, (DEW) is displayed.
  If this happens, none of the functions except cassette ejection will work.
  Open the cassette compartment and remove the battery.
  Leave the camcorder for at least two hours in a dry warm room.

SETTING MENU ITEMS

Main Menu	Sub Menu	Functions	Available Mode		Page
			Camera Mode	Player Mode	
Camera	Program AE	Selecting the Program AE Function	✔		46, 47
	White Balance	Setting the White Balance	✔		48 ,49
	Visual Effect	Setting the Digital special effect	✔		50, 51
	16:9 Wide	Setting the 16:9 Wide Function	✔		52
	Macro	Setting the Macro Function	✔		53
	DIS	Selecting the Digital Image Stabilizing	✔		54
	BLC	Setting the BLC Function	✔		55
	Digital Zoom	Selecting the Digital Zoom	✔		56
	C.Nite	Selecting the Color Nite	✔		57
	Light ①	Selecting the Light	✔		58
Tape	Photo Search	Searching pictures recorded on a tape		✔	60
	Audio Select	Selecting the Audio playback channel		✔	65
	Audio Effect	Selecting the Audio Effect		✔	66
Record	Rec Mode	Selecting the recording speed	✔	✔	43
	Audio Mode	Selecting Sound Quality for recording	✔	✔	43
	WindCut Plus	Minimizing wind noise	✔	✔	44
	Real Stereo	Selecting the Real Stereo	✔		45
Display	Guideline	Setting the Guideline	✔		29
	LCD Bright	Setting the Brightness tone of the LCD Screen	✔	✔	30
	LCD Color	Setting the Color tones of the LCD Screen	✔	✔	30
	Date/Time	Setting the Date and Time	✔	✔	31
	TV Display	Selecting OSD on/off of TV	✔	✔	32

troubleshooting

SETTING MENU ITEMS

Main Menu	Sub Menu	Functions	Available Mode		Page
			Camera Mode	Player Mode	
System	Clock Set	Setting the Clock Set	✔	✔	23
	Remote ②	Using the remote control	✔	✔	24
	Beep Sound	Setting the Beep sound	✔	✔	25
	Language	Selecting the OSD language	✔	✔	27
	Demonstration	Demonstration	✔		28

① : SC-D392 only
② : SC-D392 only

ABOUT THIS USER MANUAL

- **This user manual covers models SC-D391, SC-D392.**
  Although the external appearances of SC-D391, SC-D392 are different, they operate in the same way.
- Illustrations of model SC-D392 are used in this user manual.
- The displays in this user manual may not be exactly the same as those you see on the LCD screen.
- Designs and specifications of the camcorder and other accessories are subject to change without any notice.

specifications

MODEL NAME: SC-D391/ SC-D392

System	
Video signal	NTSC
Video recording system	2 rotary heads, Helical scanning system
Audio recording system	Rotary heads, 12/16b PCM system
Usable cassette	Digital video tape (6.35mm width): Mini DV cassette
Tape speed	SP: approx. 18.83mm/s LP: approx. 12.57mm/s
Tape recording time	SP: 60 minutes (when using DVM 60), LP: 90 minutes (when using DVM 60)
FF/REW time	Approx. 150 sec. (using DVM60 tape)
Image device	CCD (Charge Coupled Device) : 680K Pixels
Lens	F1.6 34x,1200x (Digital) Electronic zoom lens
Filter diameter	Ø30
LCD Screen	
Size/dot number	2.7inch 112K
LCD Screen Method	TFT LCD
Connectors	
Video output	1Vp-p (75Ω terminated)
Audio output	-7.5dBs (600Ω terminated)
DV input/output	4pin special in/out connector
General	
Power source	DC 8.4V, Lithium Ion Battery Pack 7.4V
Power source type	Battery Pack, Power supply (100V~240V) 50/60Hz
Power consumption (Recording)	3.7W
Operating temperature	0˚~40˚C (32˚F~104˚F)
Storage temperature	-20˚C ~ 60˚C (-4˚F ~ 140˚F)
External dimension	Height : 2.40" (61mm), Length : 3.74" (95mm), Width : 4.40" (112mm)
Weight	340g (0.75lb) (Except for Battery Pack and tape)
Internal Microphone	Omni-directional stereo microphone
Remote control (SC-D392 only)	Indoors: greater than 49ft (15m) (straight line), Outdoors: about 16.4ft (5m) (straight line)

- The technical specifications and design may be changed without notice.

Warranty

SAMSUNG
LIMITED WARRANTY

SAMSUNG Electronics America Inc. (SEA), warrants that this product is free from defective material and workmanship.
SEA further warrants that if product fails to operate properly within the specified warranty period and the failure is due to improper workmanship or defective material, SEA will repair or replace the product at it's option.
All warranty repairs must be performed by a SEA authorized service center. The name and address of the location nearest you can be obtained by calling toll free: 1-800 SAMSUNG (1-800-726-7864).
Labor
90 days carry-in
Parts
1 year

On carry-in models, transportation to and from the service center is the customer's responsibility.

The original dated sales receipt must be retained by the customer and is the only acceptable proof of purchase.
It must be presented to the authorized service center.

EXCLUSIONS (WHAT IS NOT COVERED)

This warranty does not cover damage due to accident, fire, flood and/or other acts of God; misuse, incorrect line voltage, improper installation, improper or unauthorized repairs, commercial use, or damage that occurs in shipping.
Exterior and interior finish, lamps, and glass are not covered under this warranty.
Customer adjustments which are explained in the instruction manual are not covered under the terms of this warranty. This warranty will automatically be voided for any unit found with a missing or altered serial number. This warranty is valid only on products purchased in the United States and Puerto Rico.

Some States do not allow the exclusions or limitations of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.
This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center Samsung Electronics America, inc.
1-800-SAMSUNG (726-7864)
www.samsung.com/us

RoHS compliant
Our product complies with “The Restriction Of the use of certain Hazardous Substances in electrical and electronic equipment”, and we do not use the 6 hazardous materials- Cadmium(Cd), Lead (Pb), Mercury (Hg), Hexavalent Chromium (Cr +6), Poly Brominated Biphenyls (PBBs), Poly Brominated Diphenyl Ethers(PBDEs)- in our products.